

# American Artisan

Founded 1880

The Warm Air Heating  
and Sheet Metal Journal

Vol. 97, No. 5

CHICAGO, FEBRUARY 2, 1929

\$2.00 Per Year

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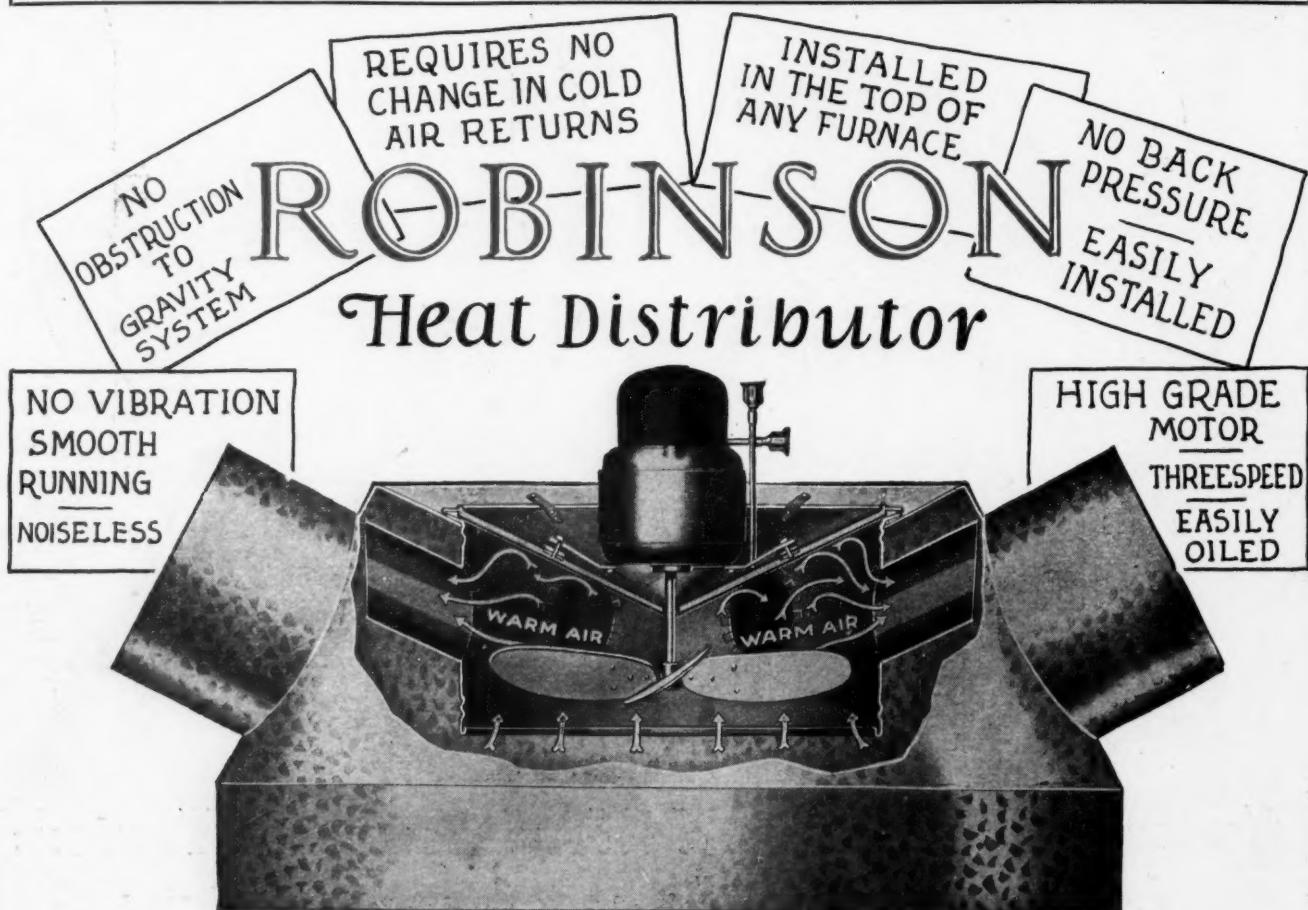
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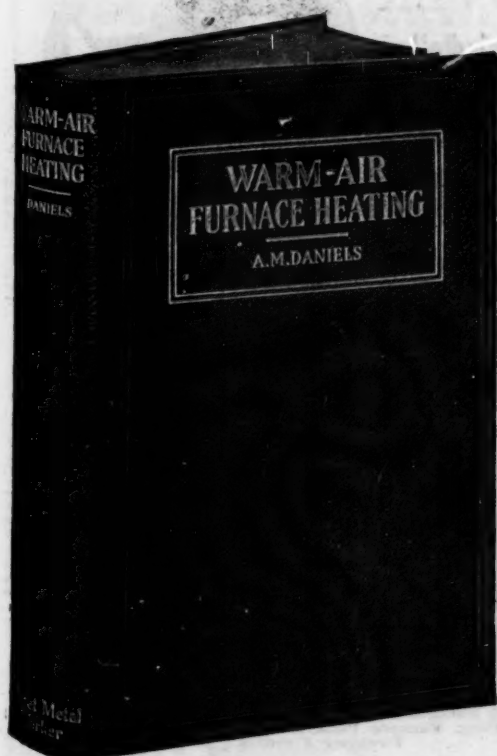
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9. Air Supply to Furnace.
10. Furnace Capacity and Rating.
11. Register Grilles vs. Plant Capacity.
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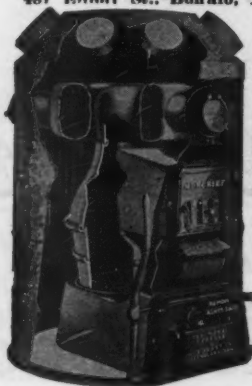
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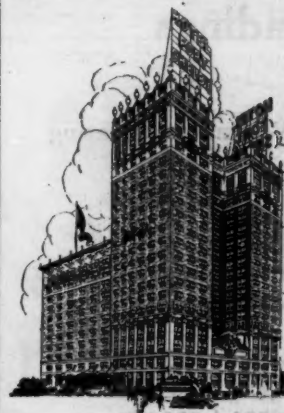
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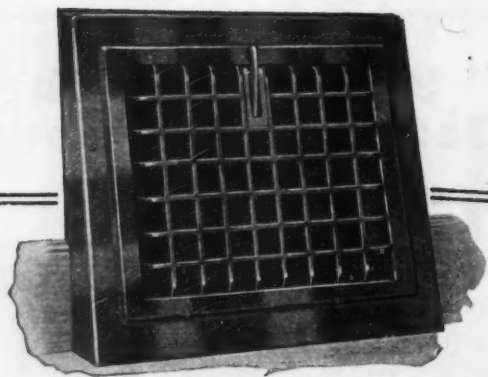
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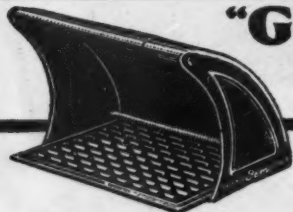


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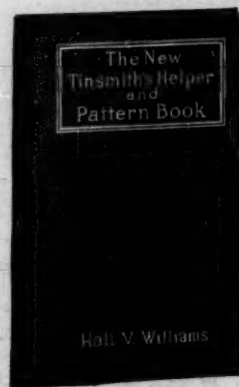
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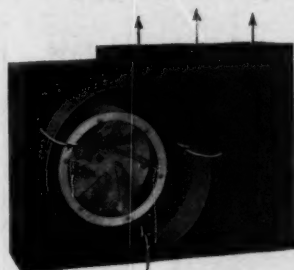
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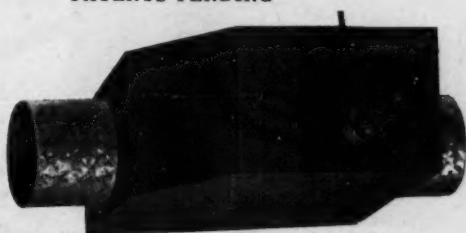
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### PITY PROPERLY PLACED

*I pity no man because he has to work. If he is worth his salt, he will work. I envy the man who has a work worth doing and does it well. There never has been devised, and there never will be devised, any law which will enable a man to succeed save by the exercise of those qualities which have always been the prerequisites of success—the qualities of hard work, of keen intelligence, of unflinching will.—*  
THEODORE ROOSEVELT.





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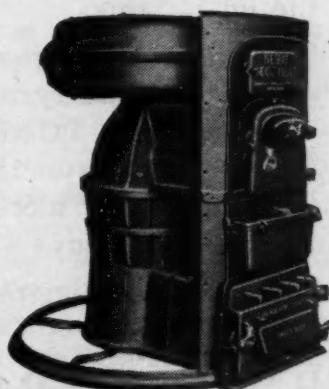
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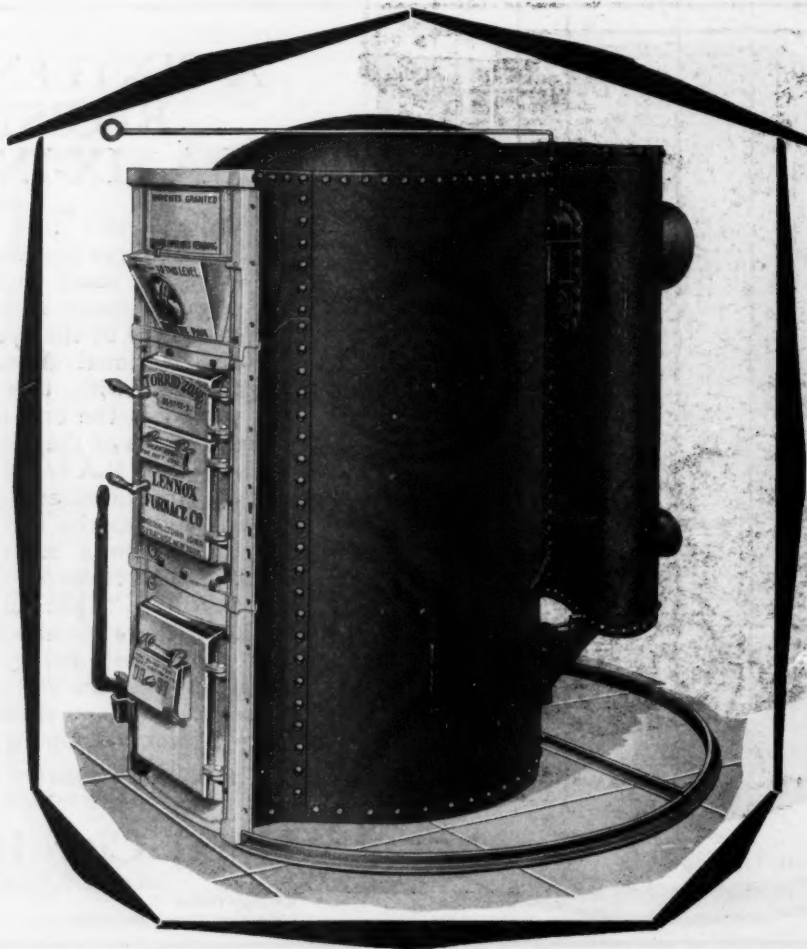
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them more for their money than they can get from anyone else. The 1929 TORRID ZONE will enable you to do this.

Our reasons for adding 22% more primary radiating surface to the body of the TORRID ZONE and making its radiator 15% larger, is so that you can offer more to your customer. These features will save 10% in fuel.

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# American Artisan

The Warm Air Heating and Sheet Metal Journal



Vol. 97

CHICAGO, FEBRUARY 2, 1929

No. 5

## The Volume Mystery! Or the Racket of Mr. Overhead and Miss Percent Profit

*Showing How Mr. Variable Expense and Miss Margin Come to Manufacturer's Rescue in Volume Production*

By CHARLES R. SIMMONS, Comptroller, Nachman Spring-Filled Corporation

EVERYWHERE these days we hear of volume. "Ford made his money on his volume," "You can do it if you get the volume," "Advertising pays because it brings the volume."

Yet when we ask the speaker to explain how this "volume" can do such wonders, he seldom can tell. At least he has difficulty in getting down to facts and figures and showing me how I can put volume to work coining dollars. There is some deep mystery connected with volume.

Suppose we play detective for the moment and see what we can do towards solving the mystery. We will call in the accountants and the industrial engineers and get their version. The cost men will have to clear themselves of suspicion. Perhaps the management itself is at fault.

And as in most mysteries, when the evidence is all sifted down, it points toward two very innocent appearing characters, Mr. Overhead and Miss Percent Profit. (The man does the work—and God bless the ladies.) But strange to say, this pair are equally responsible in their nefarious scheme.

We all know Mr. Overhead (the Cost people tell us his first name is Burden, and we are not surprised). He is usually found by adding some per cent (say, 150 per cent) to direct labor. And he has a habit of sitting sprawled out between Bench

sume that I am a manufacturer of an article whose units sell for about \$20.00, with raw materials costing \$11.60, and labor \$2.00.

Under the lure of the evil pair I have been figuring my selling price as follows:

Material	\$11.60
Labor...	2.00
Overhead	
150 per cent (of labor) ..	3.00
Selling 7 per cent.	1.40
Per cent profit	
(10) ...	2.00

Selling price ... \$20.00

No harm there

apparently. Every unit I sell brings me \$2.00 for the wife and kids; 100 units, \$200.00; 1,000 units, \$2,000.00. Where's that mystery—increased volume, increased profits—Solomon knew that.

Ah, but we must trace Mr. Overhead to his lair. At the end of a year I know I will have paid him for his assistance in my plant the sum of \$5,000.00. If I only sell 1,000 units, however, he has earned only \$3,000.00, and I have paid him \$2,000.00 more. What are the Net Profits? Nothing! (\$2,000.00 which Miss Percent Profit says I should have, less \$2,000.00 Mr. Overhead got). Miss Net Loss, the hag, is staring at me from around the

*In this article, Mr. Simmons, who is a thorough student of manufacturers' management problems, has portrayed in an easily understandable manner some of the difficulties that manufacturers get themselves into when they do not use proper methods in applying overhead expense.*

*Mr. Simmons also shows how, by the use of what he is pleased to term Miss Margin and Mr. Variable Expense, the manufacturer can find a solution to what so often proves to be a vexing problem to him.*

*He will follow this article up with others showing the application of this method to specific problems should warm air furnace or sheet manufacturers evince a desire for such.*

Cost and Selling Price, taking up all the room and squeezing poor Miss Profit most uncomfortably. We've always known he was a nuisance, now he stands revealed as a villain as well.

But where does Miss Percent Profit come in—it looks as though she was a victim. No indeed—you have mistaken her for her sister, Miss Net Profit. Miss Percent has been "vamping" us all for years. And to think we have been playing her game of hide and seek when it was really her sweet sister we wanted.

Let us get down to figures for a moment—they will reveal the whole story better than words. I will as-

corner.

We are getting hot on their trail now.

I will have Miss Percent Profit prepare estimates for volumes of 100, 500, 1,000, 1,500, 2,000 and 2,500 units.

Volume in units.....	100	500	1,000	1,500	2,000	2,500
Sales in dollars.....	2,000	10,000	20,000	30,000	40,000	50,000
Miss Percent Profit says I will get .....	2.00	1,000	2,000	3,000	4,000	5,000
Mr. Overhead collects from me .....	5.00	5,000	5,000	5,500	6,000	6,500
Mr. Overhead earns.....	1.00	1,500	3,000	4,500	6,000	7,500
Mr. Overhead cheats me out of.....	6.00	3,500	2,000	1,000	*	....
I gain from Mr. Overhead.....	....	....	....	....	....	1,000
Miss Net Profits really is.....	....	....	....	2,000	4,000	6,000
Miss Net Loss takes me in for.....	4,500	2,500	†	....	....	....

\*He's gone. †She's gone.

Those figures may look dry, but they certainly tell the story. Unless I guessed by accident, the volume of 2,000 units, either Mr. Overhead or Miss Percent have tricked me in my plans to secure sweet Miss Net Profits.

Most of us will have to admit that we too have fallen for the wiles of Miss Percent. Most of us now know her for the tricking dame she really is. But many of us are at a loss to know how to replace her in our organization.

We will carry our detective work a step farther. How are successful businesses doing? Another surprise! They have fired not only Miss Percent Profit, but also her helper, Mr. Overhead. And in their place they have employed a most efficient pair, Mr. Variable Expense and Miss Margin.

When we analyze carefully what Mr. Overhead was being paid for, we find that some of the expenses could be increased or decreased with corresponding increases or decreases of volume, while others such as rent remained the same as long as the capacity of the plant is not over-taxed.

So we find we can split the former domain of Mr. Overhead and give to Mr. Variable Expense only those items which increase or decrease with volume. In the chart above you will note we have shown an increase to Overhead of \$1.00

per unit beyond 1,000 units.

To Miss Margin we will give what is left after we subtract from Selling Price the Materials, Labor, Variable Expense and Selling Expenses.

Based on this new regime, my

cost figures on the \$20.00 unit will be:

Material .....	\$11.60
Labor .....	2.00
Variable Expense .....	1.00
Selling Expense .....	1.40
Margin .....	4.00

Selling Price .....\$20.00

Since Miss Margin is new in my employ, I had better see what she can do. I will have her prepare a similar estimate of Net Profit.

While she is "doing her stuff" I must tell you about Mr. Fixed Expense. He has charge of all those items which do not change with volume. And while his brother, Mr. Variable, has been made a foreman in Mr. Overhead's place, Mr. Fixed Price has been put under Miss Margin's department. For whatever Miss Margin has left after paying Mr. Fixed Expense will be Net Profit.

Well, here are Miss Margin's estimates. Let us check them with Miss Percent's.

She seems to be right for the vol-

Volume in units.....	100	500	1,000	1,500	2,000	2,500
Sales in dollars.....	2,000	10,000	20,000	30,000	40,000	50,000
Miss Margin gets.....	400	2,000	4,000	6,000	8,000	10,000
She pays Mr. Fixed Expense..	4,000	4,000	4,000	4,000	4,000	4,000
She says Miss Net Profit will be .....	....	....	....	2,000	4,000	6,000
She says Miss Net Loss will get .....	3,600	2,000	....	....	....	....

umes of 1,000 and over, but she doesn't show as big a loss for the

smaller volumes. Has she made a mistake or did we make one in checking Miss Percent Profit's figures?

Neither! The figures are correct! What then? Merely this, that by relying on Miss Percent's estimates I, as manager, failed to cut down that part of the Overhead represented by Variable Expense to the basis warranted by the reduced volume. Which would represent an avoidable loss of \$500 to \$900.

So now we have checked Miss Margin's estimates and know we can rely on her. Let us see what else she can do.

First, she says, since I get \$4.00 per unit and must pay Fixed Expense \$4,000.00 a year, I need 1,000 units a year to break even. Yes, I know that from your figures above. True, she replies, but if you hadn't accidentally told me to estimate for 1,000, you wouldn't know.

Next, for every unit over the 1,000 which we sell the *Net Profit* is \$4.00—not only the margin, but the Net Profit. If I am up against a question of getting an order for 100 units or losing it, my stake is not \$200.00, but \$400.00. And if I can get only \$19.00 instead of \$20.00 on that order, then if I take the order at \$19.00 I will still be \$300.00 ahead of where I would be if I turn it down.

Yet, Miss Margin, like everyone else, has her weaknesses. We must assure ourselves when using her that we are not softening our market, and we must also be careful that additional business does not increase our Fixed Expense. If we are on guard for these two dangers we will find Margin a most useful tool of management, since under her spell the mystery of volume dissolves and becomes a matter of schoolboy com-

putations.—Reprinted by permission from the *Nachman Unit*.



# Gas-Fired Warm Air Furnace Demonstrates Superior Merit in Paper Products Plant

*System Thermostatically Controlled Needs  
No Attention from Machine Operator*

SO far as the extent of the adaptability of the warm air furnace in industry is concerned, the surface has only been scratched. Every day some manufacturer learns that the warm air furnace in any one of its types can be put to work in his

advantage. They have it proved to them by live-wire warm air dealers who are out after business. These men analyze the processes of manufacture that are going on within a plant and then make up their own minds whether they can save that

in the new plant of the Economy Blue Print Products Company, Chicago.

In this process an even temperature within narrow limits is required. Beyond these limits the product would spoil within a short time. Temperature control is accomplished with a Time-O-Stat temperature limit control directly connected to a type C Time-O-Stat gas valve.

The equipment is self-contained and self-controlled. No attention from the machine operator is required other than lighting the thermostat pilots which are used to insure entirely automatic operation.

The quality of product turned out by this equipment is far superior to that formerly made by this same machine when it was equipped with steam coils and the speed of operation has been increased over 50%.

There is nothing unusual in the application of gas furnaces to manufacturing processes, except the great flexibility and adaptability.

Drying, humidifying or air conditioning are equally well accomplished by the same equipment. Temperature control is accurate, positive and flexible in adjustment.

This application of the Gas-Era furnace was developed by a member of the Mueller engineering staff and the chief chemist of the Economy Blue Print Products Company.



Gas Era Warm Air Furnace Installed in Plant of Economy Blue Print Products Company, Chicago

plant, not only saving him time and money, but doing his work in a far more satisfactory manner than any other form of heating equipment has been able to do it.

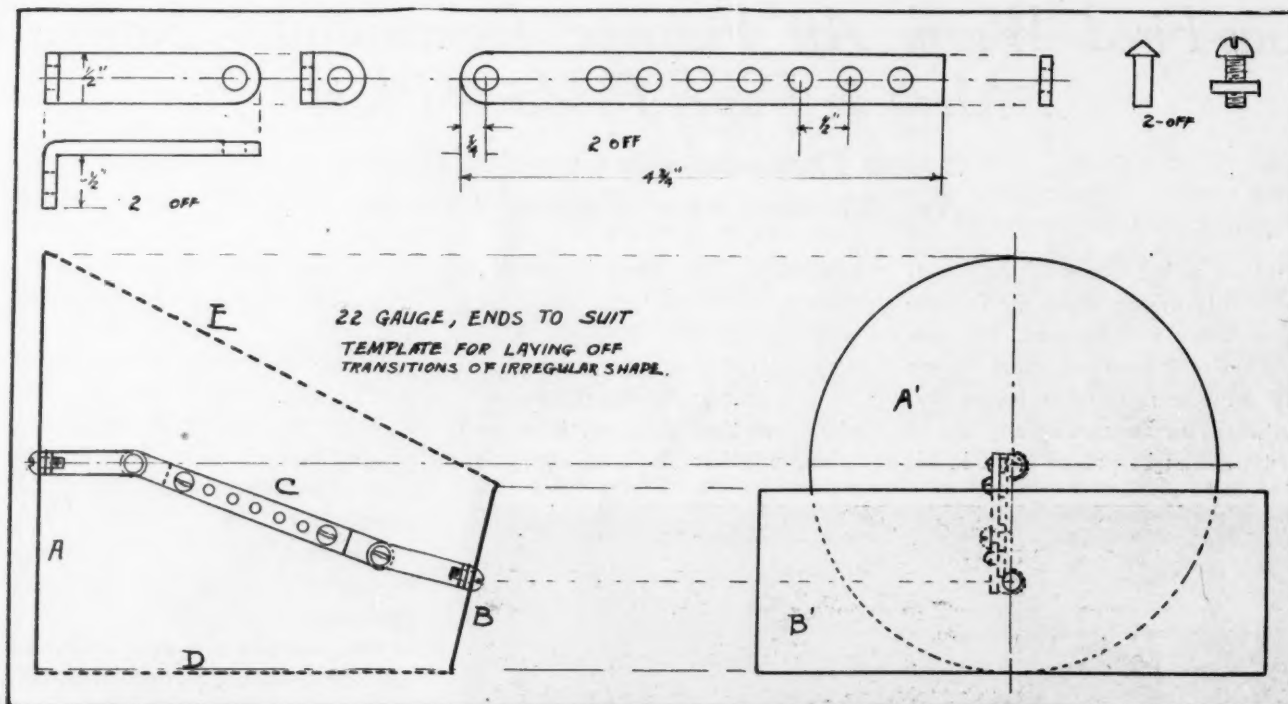
Of course, these manufacturers do not come to the conclusion unaided that warm air heating equipment can serve them to the best

manufacturer money by selling him their equipment. Sales resistance is practically done away with under those conditions, as is competition.

As an example of the adaptability of warm air gas-fired furnaces to precise industrial processes, we show a No. 2 Mueller Gas-Era furnace, as installed on a coating unit

## W. E. Lamneck Reelected President of Company Having His Name

The W. E. Lamneck Company, Columbus, Ohio, manufacturer of furnace pipe and fittings, has added new lines and will increase its working force and output. W. E. Lamneck has been re-elected president, M. B. Armstrong, London, Ohio, vice president, and A. P. Lamneck secretary and treasurer.



Illustrating Detail of Making Templates

## The Template Method Versus Strict Geometry in Making Patterns

*An Analysis of Methods Showing Where Strict Geometry Has the Greater Usefulness*

By O. W. KOTHE, St. Louis Technical Institute

THE older school of sheet metal men still favor methods of arriving at their patterns other than using strict geometry. The men to whom this applies includes many of those who come over from Europe and who have been taught the building up process and the making of false structural work in order to arrive at certain measurements in getting at the patterns.

Many men in this country have adopted those methods and really prefer them, more because they know more about them than strict geometry. I will agree templates have their service and can be used to an advantage now and then with considerable saving in time and effort. But this is not the rule, it is more the exception, and it is not a good thing to base one's future hope of prosperity and success on methods that have outlived their usefulness.

In the accompanying drawing we show a template for making a transitional fitting from rectangles round and flat on one side. By means of the connecting arm and the two flat pieces of metal A' and B' we see how these discs may be turned in any position that the bases of the transition may require. This is really one of the most simple and quickly adjusted templates we have seen for some time. The idea is to adjust the template to the size and shape desired, since it is always easy to make a disc and plate, as A' and B', bolting it to the connecting arm and then adjusting the bases so they will rest in the angle desired. For off-handed work this is very serviceable and convenient.

But where strict accuracy is to be observed and elbow angles are to be made having a definite turn or miter line, then it would be necessary to lay the elevation of the elbow down

on paper, in order to use the drawing to help gage the angle of the bases. Since this must be done, it would be just as convenient to use geometry for the rest of the way in developing the fitting. Most men, having only half knowledge with triangulation, could lay out the pattern in approximately the same time it would take to adjust the template and lift the pattern. This lifting process is done by setting the template on the metal and marking the edges A and B as the template is being turned over from one side to another. Other men take building paper and wrap around it and so arrive at the pattern.

In the modern trend of affairs the policy is to work everything off on paper first so that every part has its measurements and can be directly reproduced on the metal. This is done in the office or drafting room where the men who do the planning



take their time in figuring out the best ways of accomplishing the work. The work is then sent to the shop with orders on the way it is wanted and how it is to be done. The men in the shop then have nothing else to do but to produce that. The men on the jobs have even less opportunity, since they only erect what the men in the shop make and they consequently have less inside and technical matters than the men in the shop might be found to have.

From this it is evident that where tradesmen will advance into the higher realms of the industry the only door open to them is to make themselves thoroughly expert in all sorts of sheet metal designs and drafting work, so they can focus on any one problem a score or more different methods. In that way they can select the method best suited or even invent new ones to facilitate carrying on the work in a more efficient manner. But men who tie themselves down to template methods, of which there are numerous in existence, never have that scope of operation or opportunity that their more foresighted brother has who has trained himself in geometrical designs and modern construction methods.

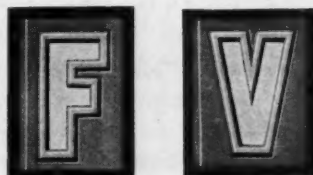
#### **Has Novelty In Small Clothes Washer And Interchangeable Letters**

The Friedley-Voshardt Company, 733 South Halsted Street, Chicago, makers of sheet metal ornaments and sheet metal statuary, have recently produced an innovation in electric sign letters. These letters are termed the new interchangeable F. V. letters and they are stamped in zinc, steel, porcelain enameled or copper. They also come in cast aluminum.

These letters are particularly suited to use by motion picture theaters, where the signs must be changed frequently and where a large number of all letters of the alphabet must be kept on hand at all times. They are well constructed and so made as to give maximum

visibility both day and night to the letters.

Another useful novelty which this progressive firm has produced recently and placed upon the market is what is termed by them as their Full Value Washer, built especially for use on camping trips and for the traveler generally. It is small, compact and takes up very little space in the traveling bag, but is



Showing the Letters

found extremely useful for washing out handkerchiefs, sox or lingerie. The device is also equipped with a means of wringing out the fabrics without putting the hands into the water.

Full details and prices on these two extremely useful items can be had by writing the Friedley-Voshardt Company, Inc., 733 South Halsted Street, Chicago.

#### **Flint, Michigan, Association Busy With Convention Plans**

Every Wednesday will find a meeting of the Flint Association or of one of the committees who are arranging for the convention which will be held in this city March 5-6 and 7th.

President Albright has all his committees appointed and working hard. He has assured us that a wonderful program is being planned and that anyone that misses this convention will lose out on a lot of things.

The following are the committees that are now busy planning for your entertainment: Finance Committee: Fred Hossie, Wm. H. Schweitzer and M. J. Murphy; Entertainment Committee, Wm. H. Schweitzer, M. J. Murphy, Fred Hossie and Everett Karrer; Publicity Committee, Otto J. Landskroener, Floyd Root and Frank E. Westover; Reception Committee, Ed Karrer, Harold G. Bullock and

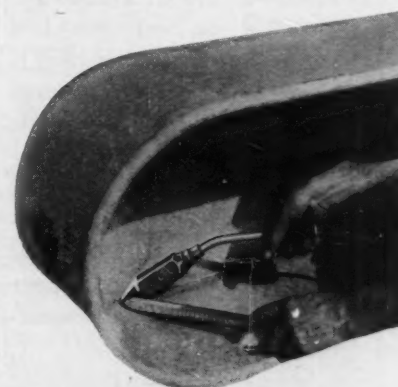
Frank DeBruyn; Reservation Committee, Everett Karrer, Frank Westover and Frank DeBruyn.

You will soon be receiving a reminder of the convention and a little later a reservation card. This card should be returned very promptly to assure that everyone will be taken care of in the way of hotel accommodations.

If you have never attended one of Michigan's conventions, you have a wonderful experience in store for you.

#### **Schmidt Soldering Device Giving Good Results**

The Minn-Kota Foundry & Manufacturing Company, 201 2nd Street, North, Fargo, North Dakota, have developed and placed upon the market what they are pleased to term the Schmidt torch and soldering copper outfit, which is especially adapted for use in lead



Illustrating the Torch

burning, automobile radiator repairing and for all kinds of general soldering and repair work in the sheet metal shop.

The outfit is so constructed that the soldering iron is attached directly to the torch hose and the soldering iron itself is heated by the flame which strikes the back of the iron. The principles of operation of this device are such that there is no soot, carbon, or delay in its operation, say the manufacturers. Its operation is instant and effective.

For complete details on this device write to the Minn-Kota Foundry & Manufacturing Company, 201 2nd Street, North, Fargo, North Dakota.

# *A Timely Equipment Need—Buy Equipment on Merit Rather Than Price*

*Business Today Requires That Equipment Must Be Kept Up-to-Date*

By L. BROEMEL, Manager of Sales, Peck, Stow & Wilcox Co.\*

THERE recently appeared an article in the *Saturday Evening Post* in which it was stated that the year 1928 would show the record out-turn and consumption of over one hundred million tons of steel in the world.

The pre-war use of steel amounted to around three-fourths of that volume. The most impressive feature of this use of steel is that it is almost entirely for the use of peace, since little steel is now going into warships and armament. Half of the world's steel is made in the United States.

Living as we are in a steel age from what has just been quoted, it is safe to assume that sheet steel is enjoying a relative record out-turn and consumption for home use. It is needless to refer to statistics for ascertaining if this is true, for each year on every hand we are observing the introduction of new sheet steel ideas that have found their successful development for commercial consumption.

First, because the rolling mills of our country are competing keenly for output of high-grade steel sheets as are required for industry's specific needs.

Second, organization and inventive ingenuity have become refreshed as far as it lies in the power of those in this picture of industrial enterprise to produce the needed tools and machines for the fabrication of steel sheets into things of commercial usefulness.

A bundle of sheet steel has always impressed me as the coldest and drabest material thing to behold. Contrasting it with a pile of

lumber, the latter suggests cool forests and the smell of pine, while the former suggests a hot smoky rolling mill from whence it came—and at this point let me add if one should want for inspiration to find a theme for a talk on a subject as covered here, our steel warehouses and sheet metal shops should not be visited to find it. The inspiration and beauty invariably lies in the finished product and is not to be found in the basic material from which the product was made.

Let us visualize that bundle of sheet steel for a moment. As soon as intelligent minds and expert hands with the application of tools and machines take hold, useful things of beauty and permanence take form. This transformation is observed in the beautiful motor cars on our highways and in other conveyances for travel on land and sea and in the air.

All these things are examples of the artisan's craftsmanship demonstrating that nothing is impossible with sheet steel when placing in his hands the essential tools and machinery for lending form to what a constructive mind sees.

Even the youngster of our day finds admiration in his sheet steel toys—the railroad train, motor truck, tractor, steam shovel, airplanes, etc. These things are not merely toys, but are representative of our industrial progress, offering fine models and examples of aggressive accomplishment.

There you have a contribution of the basic material thing on the one hand and the mechanical and constructive enterprise on the other.

Great strides have been made in the advancement of the sheet metal working machinery industry in the last few years. Impetus was given

it owing to the rapid substitution of sheet metals in the construction of things that had wood for its basic material. The skillful selection and adaptation of modern fabricating machinery are introducing annually a great many new sheet steel commodities and it seems that we have only scratched the surface.

I cannot give you a better example as relative to the tendency to use more sheet steel and consequently more and better machinery to fabricate that steel than to quote an incident which concerns a prominent western machinery dealer. Two floors of this dealer's spacious warehouse were heretofore given over to the stocking of all kinds of woodworking machinery. The increasing demand of late years for steel working machinery served to crowd woodworking machinery to a single floor. Very recently it was found profitable to make further liquidation and that floor space in a large part is now given to steel working machinery where before woodworking machinery largely predominated.

The members of your association must be alive to this trend of changing conditions; otherwise the need of a talk on this subject would not have been felt. I am fully aware of the fact that I am addressing a gathering of sheet metal contractors. Your interests are in things of relative industrial value, although you are not production manufacturers, but you are piece makers of sheet metal products as are used most largely for modern building construction.

It is a well-accepted fact that the cost of labor is a dominating factor in our industrial manufacturing fabric. It is labor and not material costs that is largely responsible for

\*Address delivered at the Indianapolis convention of the Indiana Sheet Metal and Warm Air Heating Contractors' Association, January 22 to 24, 1929.



making your product cost one dollar and fifty cents, while you only receive one dollar for that same product. The mathematician will accurately figure that it is profitable and good business to ask two dollars and seventy-five cents for a thing that costs a dollar and a half, and he would advise you not to sell that thing for a dollar if you don't want to go into bankruptcy.

However, the aggressive and well-organized manufacturer and quite a few sheet metal contractors are realizing that competition is setting the standard of the cost of things in practically all lines. If it has set the price for a superior and not for an inferior product at one dollar, the expert production manager, by having placed at his disposal everything essential to the conservation of labor, will find a means to produce that product at a figure that competition has set down as a standard and show a profit. Of course, burden expenses and other economies must be dealt with.

If you are shearing your sheets by foot and your competitor is using a power squaring shears—if you are grooving over a stake with a hand groover and a hammer while your competitor is using a grooving machine—if you are riveting by hand, while your competitor is riveting by machine or spot welding—your competitor is able to set a new low standard of prices and apparently is making and not losing money on the output.

If this seems to be the condition as you have found it, set your shop in order and meet that condition. Imitate modern industrial methods as far as they will apply to your own business. Not alone from a viewpoint of the utilization of modern equipment, but from a standpoint of organization accurate planning and for having the simplest job turned out without lost motion and with mechanic-like precision.

The early part of this talk was given over to the encouraging future outlook of the sheet steel industry which is incidentally attracting new capital and men of broad vision recruited from manufacturing fields.

## SHEET METAL and WARM AIR HEATING CONTRACTORS



**PLEDGED TO THE PROMOTION of BETTER SHEET METAL WORK—WITH THE USE OF HIGH QUALITY MATERIALS; AND BETTER HEATING INSTALLATIONS IN ACCORDANCE WITH THE NATIONAL STANDARD CODE.**

ALLRED CO., THE (H. A. Beaman)	2829 Northwestern Ave	TA lbot 6014
ARNOLD, A.	1650 E. 49th St.	HU mboldt 4560
BAXTER, E. M.	1826 Ludlow Ave.	CH erry 4246
BOEHM, J. F.	2326 E. Tenth St.	CH erry 0217
BROAD RIPPLE SHEET METAL SHOP	6349 Bellefontaine St.	HU mboldt 4212
CENTRAL SHEET METAL CO.	1621 East Mich. St.	CH erry 5566
CENTURY HEATING SERVICE CO.	633 S. Delaware St.	RI ley 2291
CLASS, M. & SON	1124 E. Tenth St.	CH erry 7154
CLIFTON TIN SHOP	2942 Clifton St.	TA lbot 5828
CREEKBAUM, ARTHUR P.	3350 Kenwood Ave.	TA lbot 6989
DAUFEL BROS.	1133 Hoefgen St.	DR exel 2991
DOYLE HEATING & S. M. CO	27 N. East St.	LI ncoln 7270
EHRLICH, WM. FURNACE CO.	1628 Bates St.	DR exel 1332
FLETMEYER, R. H.	2509 W. Wash. St.	BE lmont 3932
FREDRICK, W. A.	4106 E. Tenth St.	CH erry 5776
GARDNER, JOSEPH CO.	147 Kentucky Ave.	RI ley 1562
GOLDSTEIN, CHAS. TIN SHOP	1040 S. Meridian St.	DR exel 3431
HALL-NEAL FURNACE CO.	1322-32 N. Capitol Ave.	LI ncoln 1004
HAUSSER, CHAS. & SON	916 Tacoma St.	CH erry 4225
HAWKINS, RAYMOND	931 Virginia Ave.	DR exel 7033
HAWKINS, ROLLYN FURNACE CO.	950 E. Maryland St.	DR exel 0374
KRESS, JOE	2105 E. Wash. St.	CH erry 4606
KRUSE COMPANY	353 W. 16th Place	TA lbot 0218
LAUCK, JOHN & SONS	13 West Ray St.	DR exel 3966
LAUT, H. W. & CO.	630 Fletcher Ave.	DR exel 1700
LAVERY, THOS. V.	2416 E. Mich. St.	CH erry 7100
LEFFORGE, GUY	1926 Arrow Ave.	CH erry 1098
LOVE, CHESTER	4111 E. Tenth St.	CH erry 0479
MERRILL, ORVILLE G.	1122 W. 35th St.	TA lbot 4785
MIDWEST HEATING & SERVICE CO.	2921 E. Tenth St.	CH erry 5923
MULLIN, ELMER R.	203 S. Ritter Ave.	IR ington 1784
OFF, C. & CO.	107 N. East St.	LI ncoln 1549
PEERLESS FOUNDRY CO., THE	1853-1935 Ludlow Ave.	CH erry 6122
QUALITY SHEET METAL WKS.	930 Mass. Ave.	LI ncoln 6880
RELIABLE TINNING CO.	4500 Southeastern Ave.	DR exel 1163
RIECHWINE, J. F.	1264 N. Holmes Ave.	BE lmont 1837
RYBOLT HEATING CO.	632 Mass. Ave.	RI ley 9427
SANITARY HEATING & VEN. CO.	111 Monument Place	LI ncoln 5621
SCHEER BROS.	2609 Southeastern Ave.	DR exel 3319
SELCH, HOMER	844 Virginia Ave.	DR exel 2773
SIGMON HEATING CO.	1618 E. Wash. St.	LI ncoln 3914
SINK & EDWARDS	621 E. Ohio St.	RI ley 7336
SKELTON SHEET METAL WKS.	1265 Oliver Ave.	BE lmont 4094
SMITH, SHELDON	5412 Carrollton Ave.	HU mboldt 2950
STEWART, WM.	2234 E. Wash. St.	CH erry 5664
THOMAS, JAMES A.	1405 W. 26th St.	TA lbot 3217
TURNER, A. H.	114 E. 24th St.	TA lbot 0543
WEINLAND, ALBERT H.	950 Fort Wayne Ave.	RI ley 4774
WEST, PAUL	1022 N. Rural St.	CH erry 0965
WOERDEMAN, A. J.	1616 N. Rural St.	CH erry 1595

Cooperative Directory Advertising Done by Indianapolis Sheet Metal Contractor

Men who have been trained for doing things in a big way regardless of initial equipment cost, if it is found that new and modern equipment will go a far way in making

the product for less and paying a dividend on the ultimate results.

This reference sounds the keynote for the future profitable suc-

(Continued on Page 20)

# WHAT IS COMEDY TO YOU MAY BE A TRAGEDY TO ANOTHER

By GEORGE DUERR

**P**ERSONALITIES differ. Circumstances alter cases, and our reactions to the same stimuli are governed entirely by the way we are affected by certain happenings.

Ferd Goodheat of the Goodheat Furnace Company is a good sport as well as a good business man. Whether the "Good" part of his name has had anything to do with it or not I am not in a position to say. But I know that he has a good sense of humor and prefers to look upon the funny side of a trying situation rather than bemoan his

hard luck as some might do.

Ferd is the secretary of a very live warm air heating association and during the past six or eight months has been through some pretty rough sledding, not on his own account, but in having to listen to the "birds who have sung the blues into his shell-like ear" on account of the condition of the furnace business in the town he selected to make his fortune during that time. As if the furnace business in that town were any different from what it has been everywhere else during the past

few months—not so good.

An occurrence which sort of stunned Ferd and administered a big jolt to his confidence in his brother warm air furnace men and in the public in general (Oh, the fickleness of the public) took place the other day. But when I started out I called attention to the fact that Ferd has a good sense of humor and it did not fail him in this instance. It all happened this way:

About three years ago Ferd got a line on a furnace prospect named Brown, and true to his calling, he



A Tragedy in One Act



knew what had to be done and did it. In this case he arrived at the Brown home just in the nick of time (as in the movies), for right on the table before him lay a contract already signed but not yet delivered for the cutest little hot water heating system Ferd had ever seen. I said he arrived in the "nick of time" because if he had not gotten there just as he did, Brown would have mailed the contract for the hot water heating system, Ferd would not have wasted a lot of time only to come to grief in the end, and there would have been no story to write. But he did get there in the nick of time and so I continue with my story.

As a result of Ferd's arriving in the nick of time Brown consigned the hot water heating contract to the waste basket or to the heaven of such inanimate things, while thoughts of the pleasures in the balmy spring atmosphere of this warm air heated home to be were rapidly germinating in his mind under the persuasive warmth of the oily-tongued Ferd.

Ferd in his turn waxed more enthusiastic as he fed his imagination upon visions of the great good he was doing humanity (and the more immediate and substantial profit that would accrue to himself). And to make matters all the more delightful, this customer was carefully concealed from all competition, nestling away in obscurity so far as other warm air men were concerned.

Brown, who had been but a moment before thoroughly sold on hot water, was sold to an even greater extent on warm air. But that ever elusive profit was still eluding Ferd. Brown wanted a week to think it over, just to be absolutely sure he was right before going ahead. The week passed. Ferd called again, glee filling his heart at the prospect which lay before him.

The awakening came even as the dawn follows a night of revelry. Little Johnnie Brown had fallen and broken his arm, which, of course, meant the postponement of all activities in the Brown family not actually concerned with the pursuit of

life, without the liberty, and happiness and the concentrating of the main Brown financial artillery upon the restoration of Johnnie to his normal health.

Ferd, somewhat dismayed but nothing daunted, pulled a stiff upper lip and went his way. Weeks lengthened into months and then years. Little Johnnie's arm healed and was forgotten. The Brown family in the meantime was beset with other successive sorrows and joys, but the joys of the warm air furnace were not among them. Nevertheless Ferd, hope ever in heart, kept in constant touch with this owner, talking warm air heat-

ing constantly at every opportunity and keeping the thought in mind that some day this "bird" is going to come through with a warm air heating contract and I want to be around when that day does come.

And come it did. Two weeks ago Ferd made one of his periodical calls and found Mr. Brown showing signs of activity in preparation for the coming wintry blasts.

Last week he called again, saying to himself, "now or never." And found the neatest little warm air heating system (of the type handled by his competitor) completely installed, that you ever laid eyes on. It's a hard, cruel world, Ferd.

## *Western Steel Products Company, Duluth, Holds Sales Convention*

*Salesmen Learn Much on Warm Air Heating, Forced Air and Oil Heating*

THE Western Steel Products Company, Duluth, Minnesota, held a very successful sales convention at Duluth on January 7th. The meeting was opened at 9:00 o'clock by Vice-president H. B. Price. The first three days were devoted entirely to the construction, application, new development and sale of warm air furnaces, conducted by L. G. Colburn, manager of that department. Forced air heat was dealt

with at length, as well as air conditioning.

About fifty representatives were present and enjoyed on Monday morning a trip through the plant. A banquet was held Tuesday evening, January 8th, at the Hotel Duluth, and a talk on how to sell was delivered by Tom Jones Meek, who is now sales director for the Hirschy Washing Machine Company and has had wide experience



Interior of Office of Furnace Department, Western Steel Products Company, Duluth. Lee Colburn is Shown Third from Left

in directing sales. Mr. Meek held the entire body spellbound for one hour and forty-five minutes, and contrary to the usual thing at a meeting of this kind, they cried for more, and he concluded his speech finding everyone wide awake. He brought out sales points which are rarely touched on by toastmasters and, to say the least, it was very interesting.

After the furnace meeting was adjourned on Wednesday, the chief engineer, Geo. I. Lindberg, addressed the body on engineering problems such as fire escapes and many of the other commodities requiring technical engineering manufactured by the Western Steel Products Company, which reach as far as Persia.

Upon conclusion of Mr. Lindberg's talk, Mr. Whitnah, manager of the Farm Equipment Department, displayed the possibilities of barn and poultry house ventilation, which was very interesting.

Mr. McIntyre, manager of the tool and hardware department, then took the floor and at length dealt with tools, steel buildings, and commodities manufactured in his department.

On Friday the meeting drifted to the oil equipment department, which is handled by Frank Flaherty, including oil tanks from 250 gallons to 25,000 gallons, oil pumps and all equipment connected with oil stations and bulk stations.

Jerome Simer of the A. Y. McDonald Company gave an interesting talk on this subject, as well as L. L. Gray, and this branch of the conference was quite interesting.

On Saturday morning Elmer Palo, the dean of all heavy hardware buyers in the Northwest, told the conventioners more about sheet metal and how it was made in two hours than they could possibly expect to learn in many weeks of study. The Western Steel Products Company are also going to job steel sheets in addition to their many other lines.

Among those present at the sales convention were: L. G. Colburn, Manager of the Furnace Depart-

ment; M. C. Hanson, Northern Minnesota representative; C. S. Whitnah, Manager of the Farm Equipment Department; H. B. Price, Vice-president and General Manager; Thos. W. Pearson, Special Representative; Geo. I. Lindberg, Chief Engineer; John Bispala, Iron Range Representative; Frank Kriedler, Factory Superintendent; F. H. Wilson, Western Representative, headquarters at Salt Lake City; John Roth, Southern Minnesota Representative; Robert Mattingly, LaGrange, Ill.; Robt. Wilde, North Dakota and Montana Representative; Kurt Matthiessen, Assistant to Chief Engineer; Frank Flaherty, Manager of the Oil Equipment Department; Hugh Spence, Heating Engineer and Experimental Department; Frank Redmond, Chicago Representative; Norman Kolbak, City Salesman, and C. W. McIntyre, Manager of the Tool and Hardware Department.

### **TIMELY EQUIPMENT NEED**

*(Concluded from Page 17)*

cess of our sheet metal shops or their ultimate failure.

The sheet metal industry is secure and sound. The demand for its products is ever on the increase. It is enlisting more and better labor—a class of labor that is demanding high-peak wages startling to the old-time artisan. To cope with the situation, the need for new equipment to get the most out of labor, in order that you may compete with your market and make a profit, is the paramount issue for your success.

In conclusion I want to add briefly and take this occasion to state that as a maker of sheet metal working machinery we have reached that stage where combined with good organization and modern labor-saving equipment, we have been successful in giving you, the sheet metal contractor, more machine and tool value for less money than you will find machinery costing as used in the other crafts.

You would feel surprised if you were to know the big things a production machinery manufacturer can do with a five dollar bill.

I personally have offered the highest standard of modern machine construction to contractors which embodied features costing a few dollars more and worth one hundred dollars in the use of that machine for an indefinite time. Something not as desirable is invariably ordered because it is a little cheaper.

It will not be denied that a contractor will ask for the price of a machine rather than first seek education relative to the merits and operating features of the machine under consideration and consider price last.

Aware of this situation, the manufacturer has no encouragement to incorporate in his machine product costly features making for improvements which cannot always be estimated in initial dollars and cents outlay.

When we buy a lathe or planer or some other machine tool our consideration will run:

First, to adaptability to our peculiar line of work.

Second, to serviceability and the reputation of the maker.

Third, how much it will produce and what merit or features it has over the others at a slight increase in initial cost.

Let me add that we are always interested in the high-priced tool, for as a manufacturer we know if it is priced higher than some others that we have investigated, there must be something good to look for.

When the sheet metal contractor will find it convenient to make similar comparisons and refrain from making price comparisons on machine sizes and capacities alone—when construction analysis made for finding the most highly adapted tool the market offers for the job, there will follow the incorporation of surprising improvements in the machines as made for your craft.

It is good policy to give a little more than the other fellow for the same money. To give greatly more must cost more. You will get more when the rank and file of machinery users buy equipment on merit first and price last.



# What Is the Modern Trend in the Sale of Sheet Steel for Roofing?

## *Some of the Sales Needs of the Sheet Steel Industry*

By N. B. RANDOLPH, St. Louis District Manager, Granite City Steel Company\*

**H**OW would you like to pinch hit for Babe Ruth? You know I am substituting for Mr. Rogers of the Sheet Steel Trade Extension Committee, and Mr. Rogers' technique always reminded me of the Babe. When Babe hits them they stay hit, as I learned to my sorrow and financial loss on a certain sunny afternoon last October, and when Rogers tells them they stay told.

He has a habit of putting his idea over the fence or anywhere he wants to put it. Now as I stand here, bat in hand to take a crack at a pretty good idea, I have resolved that if I fan it will not be because I try to tell you gentlemen how to run your business. You have many problems which are individual to your business and which I am sure you are meeting in the most practical and effective manner and can get along very nicely without any suggestions from me.

### **Each Factor in Production and Marketing Has Own Problems**

There are, however, a number of problems which are mill problems as well as the fabricators' problems, and I am going to try to give you the mill point of view, hoping that by creating a better understanding I can increase your business by giving you more confidence in the raw material with which you work and by doing so increase the volume of orders for our mill and for others.

Probably most of you have been through one sheet mill or another at some time in your lives. Those of you who have not, I hope will avail yourselves of the first opportunity to do so, and you are all welcome

and cordially invited to take a turn through our mill in Granite City at any time you like. It is not one of the largest by any means, but it is fair sized at that. It is compact and accessible. Like the modern flapper, it is easy to look at and you couldn't walk around it without seeing it all.

### **Why Lighter Gauges Disappear from Use**

I have always made it a point to urge all my customers to spend a day in our mill. In fact, I urge it so strongly that some of my customers consider me a nuisance, but they finally make the effort in order to get rid of me, and invariably these visits lead to a better understanding. If they get some idea of our problems, they are not apt to ask us to do the impossible, such as furnish them with 29-gauge roofing which will last a lifetime.

Up to three or four years ago we all manufactured 30-gauge galvanized roofing, and just three or four years ago the galvanized roofing business reached its low water mark. The sheet mill people got together and began asking themselves why the volume of incoming orders for galvanized roofing was falling off so rapidly and why more and more prepared roofings were being used. The mill people were all worried and pretty well scared up about it, so they appointed a committee to investigate. The committee finally made its report to the effect that the farmer, having spent his good money for a galvanized roof for his barn, found that almost before he had it paid for it was gone, and in disgust he would replace it with a prepared roof. You lost the replace order and we lost the tonnage. The farmer, although he remembered the

price, had forgotten that his galvanized roof was only 30-gauge.

It is quite possible that he didn't know it was only 30-gauge. It is likely that he only bought a galvanized roof and never worried himself about the gauge, and perhaps the man who sold him the roof didn't mention the gauge. At any rate, he was through with galvanized roofing for life. The result of this investigation was that several mills immediately stopped making 30-gauge roofing, and one after another all the others became conscience stricken and fell in line. In the last year we have begun to reap the benefit of this, and galvanized roofing is slowly coming back into favor.

It wasn't as easy as it sounds to make this change. Some of the roofers didn't like it. They said their trade demanded 30-gauge roofing, and they had to have it, but when the trade found they couldn't get 30-gauge, the mills began selling 29-gauge. In justice to you gentlemen, I want to say, however, that very little 30-gauge was ever sold in your district.

We are all making 29-gauge today, and although it is just that much better than 30-gauge, it makes one h— of a poor roof. Think of it! Only 11.5 ounces to the square foot and less than 1/64 of an inch thick. It will usually last till the purchaser pays for it, but not much longer—and again we have the dissatisfied customer.

### **Man Who Contacts Public Must Sell Heavier Gauge Idea**

We of the sheet mills don't come in contact with the ultimate consumer of roofing; you gentlemen do. Don't you think you can sell

\*Address delivered at the convention of Missouri Sheet Metal Contractors' Association held in St. Louis, Missouri, January 22 and 23, 1929.

the consumer a heavier roof than he has been buying? Try it out, it's a chance for some real salesmanship. You won't get the repeat order so quickly, but you will get it. If you don't sell him a good roof, the repeat order goes to the prepared roofing man three times out of four, and the whole sheet steel trade suffers. But the man who is hurt the most is your customer. As I said before, we don't come in contact with the ultimate consumer and, therefore, we can't help you except with our best wishes and our moral support. It's up to you.

Have you ever seen an industrial building of any consequence with a 20-gauge or even a 28-gauge galvanized roof? I never have. The owner of an industrial building gives a lot of thought to his roof and considers it first and last from an economic viewpoint. He knows that he is saving money by roofing his building with 22-gauge or 24-gauge, yet that same man, if he has a home in the country, will put on a 28- or 29-gauge roof on his barn. Is it because he is not interested and leaves it up to his sheet metal contractor?

If so, he will be revenged when he replaces with a tar and gravel roof. He is like the man who walked into a police station and gave himself up, saying he had just killed his wife. The police sergeant questioned him and asked why he had killed her. He said that two years before she had called him a rhinoceros. The sergeant wanted to know why he had just killed her for calling him a rhinoceros two years ago. "Well," he said, "I never saw a rhinoceros until this morning." When you sell a man a light gauge roof you call him a rhinoceros and you insult his intelligence. Two years later when he gets wise his revenge is sweet and sudden.

In recent years there has been an ever increasing demand for a galvanized sheet which will stand forming, such as double seaming, without flaking and peeling, and the mills have worked hard to get you what you want. There is but one method as far as I know to get the

desired result and that is to cut down on the thickness of the coating. A heavy coat of spelter, in spite of our best efforts, will peel under the simplest forming operation and will be very unsatisfactory if used for guttering, downspouts or for elbows. Many methods for reducing the weight of coating have been tried and probably the best known is what we call the "Tite Cote" method. In this process the sheet is preheated by being passed through a bath of molten lead in the bottom of the galvanizing pot. None of the lead adheres to the sheet but it is so hot that very little of the spelter adheres. The result

however, because while he has been working for a lighter coating he has also gotten wonderful results in the uniformity of his protective coating. The coating is only as resistant as its thinnest spot, and the very heavy coating of years ago was wasteful of zinc, and, due to its non-uniformity, was no more resistant than the lighter coating of today.

#### How Create Demand for Better Products?

However, the mill man knows that he can turn out a very much better covering for a building than he does. What he does not know is how to create the demand for it. He does not come in contact with

## JOSEPH GARDNER CO.

### TIN, COPPER AND SHEET IRON WORK

CORNICES AND SKY-LIGHTS  
METAL CEILINGS

ROOFING OF ALL KINDS  
WARM AIR FURNACES

DUST AND SHAVING COLLECTORS AND PIPING  
BLOWER AND VENTILATING PIPING  
SHEET METAL WORK FOR MILLS, FACTORIES AND FOUNDRIES

MILK CANS AND DAIRY SUPPLIES

TELEPHONE RILEY 1562

147 - 153 KENTUCKY AVE.  
INDIANAPOLIS, IND.

Blotter Advertising Used by One Progressive Sheet Metal Contractor

is a sheet with from one-half to one and one-quarter ounces of spelter to the square foot, a sheet which will stand all sorts of abuse, except exposure to the weather.

#### Effect of Lessening Spelter on Sheets

When the mill man receives an order from a jobber for galvanized sheets he has no way of knowing whether the sheets will be used to cover a building or are going through the double seaming wheels or draw press. If he coats them heavily and the farming work is severe, he has a claim very promptly. If he coats them lightly and they are used for roofing or siding they are also a failure, but the mill man rarely hears from it, although the trade has a black mark to its discredit. The perfectly logical result has been that the mill man has put less and less spelter on his sheets. He has gotten by fairly well,

the ultimate consumers; you gentlemen do, and it is my personal opinion that it is up to you. The ultimate consumer won't demand it unless you sell him the idea. The jobber won't carry it in stock unless you demand it, and the mill man can't make it if he has no market.

The solution is to create a demand for a roofing sheet with a coating heavier than the regular commercial coating. At the present market price for zinc, around 6c per lb., a 24-gauge galvanized sheet with a two-ounce coating, weight test, will cost only 42c per hundred pounds more than a 24-gauge sheet with a regular commercial coating of anything less, often very much less, than 1½ ounces, and what a whale of a difference just a few cents make. That 42c means many years added to the life of your customer's roof. It means a long time between orders, it's true, but when



that customer has a repeat order you get it, not the prepared roofing man. Also, some satisfied customers talk just as loud as the dissatisfied ones. We have to sell you the idea some way. We tried it a year or so ago.

You all remember the Master Brand idea which failed because we don't come into direct contact with you. Our contact with you is through the jobber. The idea is so good that you are bound to get it eventually and then it's up to you to sell it to the consumer.

If there is any talking point for the special iron roofing sheets it is largely due to their being a special product and not being sold in the lighter gauges. A heavier coat of spelter can be safely applied for a heavy sheet is rarely made into guttering, downspouts or elbows. The premium paid for the product justifies more zinc per ton.

Last year when the presidential campaign was under way and Will Rogers was making his fight to "take the bunk out of politics," I had new gutters and downspouting put on my house. A neighbor whose drainage equipment was also in bad shape asked me what I was going to use. I told him Granite City Soft Forming Copper Bearing stock. He wanted to know all about it, particularly the copper bearing part. When I told him that there was approximately  $\frac{1}{4}$  of 1% copper in it, he said, "What the sheet steel trade needs is a Will Rogers to take the bunk out of it." Just the same the eaves of his house are nicely decorated with Granite City copper bearing sheets today.

Eight or nine years ago I began to hear that a rust-resisting steel had been produced by adding a small percentage of copper to open hearth steel in its molten form. This sounded interesting, but when I was told that the best results were to be had from a steel with copper content of but .17 to .30% I lost interest; it certainly sounded like "the bunk." How could such a small amount of copper help, and why should added copper help anyway? Today I don't know any rea-

son why it should help, no one has ever answered my question. I only know that it does. Perhaps my friend, Mr. White, can answer that question; anyway, I feel sure he has some sound theory on the subject in hand.

#### What the 11-Year Tests Proved

Then I heard of the A. S. T. M. test made between 1917 and 1922 by their "Committee A-5 on Corrosion of Iron and Steel." I suppose you have all heard of that test; if you haven't, it only proves that we as sponsors for copper bearing steel sheets have not been on the job.

In 1917 this committee built racks at Pittsburgh and at Fort Sheridan. Black sheets of 16 and 22-gauge of all commercial brands were obtained. The progress of failure was slow but after 52 months, out of the 230 sheets of 22-gauge at Pittsburgh this test showed that all the open hearth or Bessemer steel with a copper content of less than .05% had failed in 22 months and that at the end of 52 months only 20% of the copper bearing steel sheets had failed. At the end of 64 months, only 38 of the 230 sheets had not failed and all of these were copper bearing steel. Now, bear in mind that these 230 sheets represented all well known brands, open hearth pure iron, copper bearing pure iron and wrought iron sheets were included.

The test at Fort Sheridan showed practically the same comparative results. A much longer time was required owing to atmospheric conditions. At the end of 11 years a few sheets remained, all of them steel sheets. Eighty-six per cent of the non-copper bearing steel sheets had failed and only 10.4 per cent of the copper bearing steel. \* You all know the American Society for Testing Material who sponsored this test, and you know for what they stand. They were a disinterested jury and had no ax to grind in the matter.

Gentlemen, I might have put all this into four words and I'd be much more popular if I had. The

four words might have been, "Sell him something better." He will thank you for it some day. You warm air furnace men, some of you at least, have realized that the copper bearing idea is not "the bunk." You are using it and taking advantage of the advertising that goes with it.

Specialize—it makes sales easier by giving you a talking point. The thing of primary importance is that you specialize in copper bearing sheets which are made by nearly every steel mill in the country.

Now, I understand we are to have a questionnaire. Mr. White of our Metallurgical Department is here, and believe me, he knows his stuff. I am going to ask him to be on the receiving end for these questions that you may have.

#### Famous Armco Band on the Air Through WLW on February 14th

Music lovers in all parts of the country are welcoming the announcement made recently by WLW, Crosley Radio Station at Cincinnati, that the Armco band, sponsored by The American Rolling Mill Company of Middletown, Ohio, has been secured for an hour's program on February 14th (Thursday) between 10 and 11 o'clock.

The program will be broadcast on 700 kilocycles. The Armco musicians are in charge of Conductor Frank Simon, nationally famous cornetist, and will render a program of special numbers. This band spent a week in Canada last year at the exposition at Toronto and was adjudged one of the world's finest industrial bands.

#### It Happens in the Best of Regulated Families

In the report of the Missouri Sheet Metal Contractors' convention, which appeared in the January 26th issue of AMERICAN ARTISAN, an error was made in chronicling the demise of George E. Walter. Mr. Walter is in perfect health and very much alive, and we regret that this error occurred.

### Who Was at the Indiana Sheet Metal Convention?

If you don't think that all parts of Indiana were represented at the convention in Indianapolis last week, take a look over the following list of names and see whether any of your friends were there. You are almost sure to find them listed there.

**A**  
Ackerman, G. R., Huntington.  
Allen, M. B., Detroit, Mich.  
Anderson, Frank E., Terre Haute.  
Arthur, J. L., Indianapolis.

**B**  
Balkema, John, Lafayette.  
Balkema, Mrs. John, Lafayette.  
Bailey, C. L., Massillon, O.  
Banks, E. E., Ft. Wayne.  
Baum, L. L., Lafayette.  
Baum, Mrs. L. L., Lafayette.  
Beaman, H. A., Indianapolis.  
Block, Martin, Dayton, O.  
Boone, Everett, Greensburg.  
Boone, Fred, Indianapolis.  
Bornman, H. L., Jr., Indianapolis.  
Boss, A. J., Indianapolis.  
Branham, C., Bloomington.  
Branham, Mrs. C., Bloomington.  
Bray, A. S., Philadelphia.  
Brown, J. A., Lebanon.  
Burton, Otis, Orleans.  
Butterfield, J. F., Middletown, O.  
Brown, A. W., Lebanon.

**C**  
Carney, D., Dowagiac, Mich.  
Carr, E. I., Indianapolis.  
Carter, Edward C., Chicago.  
Chapple, Bennett, Jr., Middletown.  
Class, M., Indianapolis.  
Class, Wm. M., Indianapolis.  
Cloud, W. H., Peru.  
Coleman, R. S., Ft. Wayne.  
Cooper, L. A., Indianapolis.  
Cornwell, E. C., Jr., Indianapolis.  
Cory, Jerome, New Castle.

**D**  
Daniels, Travers, Jr., Grand Rapids, Mich.

Daufel, Ed., Indianapolis.  
Dewers, Clifford, Aurora, Ind.  
DeWeese, Frank, Ft. Wayne.  
DeWitt, Frank, Chicago.  
Donnelly, F. J., Clinton, N. Y.  
Doherty, Jere, Indianapolis.  
Doyle, Charles, Indianapolis.  
Doyle, Frank, Indianapolis.  
Dudley, A. W., Terre Haute.  
Duerr, George J., Chicago.

**E**  
Eastwood, Fred R., Indianapolis.  
Ewing, Tom, Huntington.  
Ewing, Mrs. Tom, Huntington.  
Emerson, R. B., Auburn, Ind.  
Ettelsohn, George, Boonville.

**F**  
Fanning, A. F., Auburn, Ind.  
Fettig, J. A., Logansport.  
Fettig, George J., Logansport.  
Fleming, A. T., Indianapolis.  
Fredrick, W. A., Indianapolis.  
Fuller, J. P., Cincinnati, O.

**G**  
Gable, Phillip L., Hartford City.  
Gardner, Joseph C., Indianapolis.  
Gatz, Charles, Gary.  
Geitz, P. H., Indianapolis.  
Gerlach, A. W., Indianapolis.  
Gibson, L. C., Rising Sun, Ind.  
Giffin, S. H., Lima, O.  
Gillespie, L. W., Cincinnati.

Gollan, Bruce, Ft. Wayne.  
Goudall, Fred, Chicago.  
Goss, O. B., South Bend.  
Goudey, C. B., Pontiac, Ill.  
Gurbb, E. W., Princeton, Ind.

**H**  
Hall, Charles E., Indianapolis.  
Harmening, H. A., Terre Haute.  
Harmening, Mrs. H. A., Terre Haute.  
Harris, H. G., Bloomington.  
Hawkins, Rollyn, Indianapolis.  
Heads, Fred, Chicago.  
Herman, John, Indianapolis.  
Herrmann, O. B., Indianapolis.  
Hinderer, Jake, Ft. Wayne.  
Hinderer, Mrs. Jake, Ft. Wayne.  
Hill, W. A., Goshen.  
Hirons, O. P., Muncie.  
Huguenard, W. C., Ft. Wayne.  
Huguenard, Mrs. W. C., Ft. Wayne.  
Huncilman, R. A., New Albany.  
Huncilman, Bert R., New Albany.  
Hunsaker, Don, Anna, Ill.

**J**  
Jones, H. E., New York.  
Jordan, Paul R., Indianapolis.  
Joslin, Mrs. George C., Indianapolis.

**K**  
Kalberer, E. I., Lafayette.  
Kalberer, Mrs. E. I., Lafayette.  
Kelley, G. A., Indianapolis.  
Kidd, S. E., Ft. Wayne.  
Kirchoff, Carl, Huntington.  
Klein, W. A., Terre Haute.  
Koehneman, W. C., Lafayette.  
Kohl, Art, Crawfordsville.  
Korchot, Jess L., Lafayette.  
Korschot, Henry, Lafayette.  
Korschot, Mrs. Henry, Lafayette.  
Korschot, Mrs. Jess L., Lafayette.  
Kress, Joseph, Indianapolis.  
Kress, Mrs. Joseph, Indianapolis.  
Kuhn, H. P., Hagerstown.

**L**  
Langenberg, E. B., St. Louis, Mo.  
Lavery, T. V., Indianapolis.  
Lawson, W. R., Chicago.  
Leimkuehler, L. C., St. Louis.  
Lehnen, Lewis, Lafayette.  
Liniger, Ray, Huntington.  
Linsenmier, Howard, South Bend.  
Livezey, Elmer, New Castle.  
Loesch, Henry, Columbus.  
Loesch, William, Columbus.  
Lumm, Charles F., Garrett, Ind.  
Lumm, John R., Baltimore, Md.

**M**  
McCalla, C. H., Terre Haute.  
Manrow, W. C., Goshen, Ind.  
Marks, Roy, Muncie.  
Marks, Ray, Muncie.  
Mattingly, J. E., Indianapolis.  
Mattingly, Mrs. J. E., Indianapolis.  
Martin, William D., Jr., Kenosha, Wis.  
Meader, W. P., Indianapolis.  
Merrick, E. H., Southington, Conn.  
Meyer, Joseph A., Evansville.  
Meyer, Mrs. Joseph, Evansville.  
Michaels, Herman I., Muncie.  
Miller, Carl, Ft. Wayne.  
Miller, George, Ft. Wayne.  
Miller, Nelson, New Castle.

**N**  
Nemec, J. F., Indianapolis.  
Nichols, O. A., Indianapolis.  
Novotny, Alice, Gary.  
Novotny, Charles, Gary.

**O**  
Oliphant, J. M., Indianapolis.

**P**  
Perkins, Walter, Rushville.  
Perkinson, Howard, Chicago.  
Peterson, Harry, Indianapolis.  
Peterson, J. A., Elkhart.  
Purviance, D. A., Huntington.

**R**  
Reeder, C. C., Indianapolis.  
Renick, Robert, Indianapolis.  
Ricketts, Kenneth, Anderson.

Rissing, John M., Ft. Wayne.  
Roberts, E. A., Knightstown.  
Roland, Charles W., Richmond.  
Roland, Virgil L., Elkhart.  
Roland, Mrs. Virgil L., Elkhart.  
Roth, Karl, Terre Haute.  
Rummel, W. A., South Bend.

**S**  
Sammons, D. G., Muncie.  
Sapp, C. L., Kokomo.  
Sawrie, H. M., Nashville, Tenn.  
Schmidt, H. W., Indianapolis.  
Seith, I. E., Cleveland.  
Selch, Homer, Indianapolis.  
Selvig, Alfred, Indianapolis.  
Shaefer, M. P., Indianapolis.  
Shea, Mrs. William, Indianapolis.  
Sheets, O. F., Columbia City.  
Schu, C. A., Carlisle.  
Schu, Edmund, Carlisle.  
Simpson, Walter, Macomb, Ill.  
Slawson, L. E., Detroit.  
Smith, Earl C., Flora.  
Spencer, Earl, Indianapolis.  
Spillman, E. G., Winslow.  
Spillman, Mrs. Ed., Winslow.  
Stevenson, Charles E., Indianapolis.  
Stollenmeyer, E. M., Cleveland.  
Stothard, C. F., Indianapolis.  
Stowell, Jack, Aurora, Ill.  
Strassner, Will, Anderson.  
Swisher, D. R., Richmond.

**T**  
Tompkins, Mont, Gosport.  
Taylor, R. E., Cleveland.  
Teschner, W. C., Vincennes.  
Thomas, James A., Indianapolis.  
Tharp, Charles E., Ft. Wayne.  
Tobin, J., Indianapolis.

**V**  
Vandenbelt, A., Elkhart.  
Van Rie, Arthur, Mishawaka.  
Voorhees, G. A., Indianapolis.  
Voorhees, O., Indianapolis.

**W**  
Wachtel, William E., Danville, Ind.  
Wachtel, Chester P., Danville, Ind.  
Waters, Bernard, Indianapolis.  
Waters, W. S., Indianapolis.  
Watson, Clarence, Vincennes.  
Wenning, Frank, Batesville.  
West, Paul, Indianapolis.  
Woerdeman, A. J., Indianapolis.  
Wolf, W. C., Ft. Wayne.  
Wollen, Frank, Indianapolis.  
Woolen, Ed., Indianapolis.

**Z**  
Ziegler, Walter H., Columbus.

### Here Are Two Installations Just Alike in Twin Houses —One Works, Other Does Not

B. J. Malerich, proprietor of the Arrowhead Sheet Metal Company, 315 Fourth Avenue, International Falls, Minnesota, has what he might very properly term a paradox in the warm air heating industry, which goes a long way toward proving that you can never tell from where you sit.

He writes as follows and asks for some assistance:

TO AMERICAN ARTISAN:

"I have a little problem on a heat booster for a pipeless furnace that I would like a little assistance with.

"Two years ago this winter I in-



stalled two heat boosters to the bathrooms of two different houses, a pipeless furnace being used. The houses are alike and the installations are alike; namely, a funnel attached to an 8-inch elbow over the center of the furnace and this passes through the double casing where I connected the 8-inch pipe to run to the register box.

"The run is approximately eight feet long, with a rise of about four inches to the foot. I used 8x10-2¼ baseboard registers in the bathrooms. The funny part of this is that one job works very well, even does not require priming, while the other only works if the warm air register off the pipeless furnace is covered. As soon as the cover is taken off the heat stops coming into the bathroom.

"The houses are twins and the boosters are so near alike they could be called twins; the runs are straight, without any undo friction, and still one works and the other does not.

"Can you suggest anything I might do to make the faulty job work properly?"

#### **F. W. Legler Returns from Germany—Finds English Monarch Using Warm Air**

Warm air heating has a great many deeds of valor to its credit, but none of these perhaps is more outstanding than the most recent to come to our attention and that is the part which this form of heating has had to do with the saving of the life of the English monarch, King George V.

F. W. Legler, manager of retail sales of the Waterman-Waterbury Company, Minneapolis, Minnesota, who recently returned from a two months' visit to his old home in Dresden, Germany, passed through Chicago on Wednesday, January 30, and came into the offices of AMERICAN ARTISAN. In speaking of some of the things which he had seen in the old world, Mr. Legler mentioned the fact that as a general rule there are no central heating plants in use in either the British Isles or on the Continent. In Eng-

land for the most part the large fireplace is the vogue.

Therefore, during the recent illness of the English monarch it was deemed necessary to provide some means of filling the room in which he lay with air that was properly heated and also having the proper humidity content. And, of course, the warm air central heating plant was the only means of doing this work so necessary to the restoration of King George to his former good health.

On the Continent the tile stove is in the most general use. One reason perhaps why central heating plants have not been put into more general use on the Continent is the high cost of almost every kind of fuel.

Mr. Legler related a very harrowing experience which he had the misfortune to have, and that was that he had been on board the S. S. Celtic which ran aground near the coast of Ireland on his trip to Germany. He got off the ship finally without personal injury and made the trip overland to London and thence across the channel to France and into Germany. He had a number of kodak pictures which he had taken of the ship in its plight, which were all very interesting.

Mr. Legler was accompanied by his son, William, on his trip back to Minneapolis. Mrs. Legler found it necessary to remain in Boston with their daughter, Jean Margaret, who is confined to a hospital with pneumonia. Mrs. Legler and the two children accompanied Mr. Legler as far as Boston and remained there until he returned.

He is very enthusiastic over the prospects for a good warm air year for 1929, and was very anxious to get back to Minneapolis and to work after his long vacation.

#### **Edward F. Compton of Quaker Mfg. Co. Dies of Heart Disease**

There are no doubt many men in the warm air heating industry who were acquainted with Edward F. Compton, vice-president of the Quaker Manufacturing Company,

Chicago. These men will be very sorry to learn of the death of Mr. Compton, which occurred rather suddenly.

Mr. Compton was 68 years of age and the cause of his death was heart disease, which occurred at his home at 5539 Hyde Park Boulevard, Chicago. He is survived by his widow, one son, Don M., and one daughter, Mrs. James P. Chaffee.

#### **How to Shield a Cold Air Shoe on a Warm Air Furnace**

J. H. P. Mossey, 24 Edward Street, St. Albans, Vermont, in seeking more information on shielding the cold air shoe of a warm air furnace, writes to Sam Sorensen as follows:

"I read your article in AMERICAN ARTISAN of January 12th with much interest, with particular reference to the shielding of the cold air. I have set furnaces for a number of years and have never shielded any, but I can see the value of doing so, as I have noticed in the cold air shoes attached to the furnaces in round form and have found them hot for a long distance.

"I just installed a job with a 12x30 shoe, and after reading your article I ran a shield straight from the top of the shield against the ash pit. I would like to know whether this is the correct way. Will you please give me a sketch of the best way to shield?"

Sam Sorensen, 1336 North Central Avenue, Chicago, writes to Mr. Mossey as follows: "I am glad to give you the knowledge that you desire.

"When you are installing a cast iron furnace with a circular radiator you hang the shield with a wire from the radiator, have the shield wide enough to begin 6 inches from the floor to 8 inches above the highest part of the cold air boot; form the shield into a semi-circle to conform to the shape of the furnace casing.

"With a steel furnace or one without a circular radiator you build the shield from the floor up, cutting

out part of the shield at the bottom to allow the air to pass up and keep the shield about 4 or 5 inches from the furnace body."

### WHO'S WHO, WHERE!

BATTLE CREEK, MICH.—The Keyes-Davis Co., 20 Hanover Street, has incorporated its sheet metal, stamping and wire work business under the same name.

SEATTLE, WASH.—The Truck Welding Co., Inc., has been chartered with a capital of \$1,400, to do welding and sheet metal work, by Lester F. Drew and John H. Ellison.

RICE LAKE, WIS.—Rubesch Brothers have been awarded the heating and sheet metal contract on the St. John's Evangelical Lutheran Church.

PORTLAND, ORE.—The Levin Furnace Co., 525 East Broadway, has been awarded the heating contract, and the Campbell Hemsley Sheet Metal Works, 907 Alberta Street, the sheet metal contract for residence of Charles T. Grace.

SEATTLE, WASH.—The Heating & Ventilating Equipment Co., 2100 Second Avenue, has been awarded the contract for American Solar Heat forced air furnaces for the theater of W. V. Funk in Anacortes, Wash., and Joseph Dobson, in Mt. Vernon, Wash.

The Puget Sound Sheet Metal Works, 3631 East Marginal Way, has the sheet metal and roofing contract for Charles H. White apartment building.

The Penn Sheet Metal Works, 550 Denny Street, has been awarded the sheet metal and roofing contract for the Andrew G. Smith apartment building.

SAN FRANCISCO, CAL.—The Guilfoyle Cornice Works, 1234 Howard Street, has the sheet metal contract for loft building of W. C. Johnson.

Morrison & Co., 75 Duboce Avenue, has been awarded contract for sheet metal work for auditorium and gymnasium additions to Polytechnic High School there.

The Forderer Cornice Works, 269 Potrero Avenue, has been awarded the sheet metal contract for Life Science building to be erected at University of California, Berkeley, Cal.

LOS ANGELES, CAL.—The J. Herman Co., 1340 East Vernon Avenue, has been awarded contract for ventilating system for garage in basement of H. W. Hellman building, that city, and also in the addition to Seaside Hospital, Long Beach, Cal.

PASADENA, CAL.—The Reliable Sheet Metal Co. has been awarded sheet metal contract for store building of United Investors Security Co.

WATERLOO, IOWA.—The Nauman Co., corner Cedar Street and West Park Avenue, has the sheet metal contract for Ray Brown residence in that city.

CEDAR RAPIDS, IOWA.—The Hawkeye Tin Shop, 96 Second Avenue, East, has been awarded the heating contract for residence of Frank B. Beltz.

DELAND, FLA.—The Jasper Grove Heater Co. is establishing a plant for the manufacture of charcoal burning orchard heaters.

NEW ORLEANS, LA.—The Acme Blow Pipe & Sheet Metal Works, 713 Magazine Street, has been awarded the sheet metal contract for building of Young Men's Gymnasium Club.

ATLANTA, GA.—The C. A. McGinnis Co., 136 Krog Street, N. E., has been awarded the sheet metal and ventilating contract for Piedmont Hotel.

SEATTLE, WASH.—The Puget Sound Sheet Metal Works has purchased from the assignee the business of the Atlas Metal Works, 2509 First Avenue, S.

The Popple & Knowles Sheet Metal Works has been incorporated by F. B. and Lorena Cade and others, with a capital of \$500.

MINNEAPOLIS, MINN.—The Metropolitan Roofing & Cornice Works, 372 Rice Street, has the roofing contract for the building of L. C. Simons, and will soon have same completed.

ST. PAUL, MINN.—The Capital Furnace Co., 1046 University Ave., has the hot air heating contract for bungalow of Ruby Johnson.

DARLINGTON, WIS.—Craig & Reisel have the heating, plumbing and sheet metal contract for Citizens National Bank Bldg.

ST. JAMES, MINN.—The St. James Ventilating Co. is soon to begin construction of a factory in Monticello, Ia.

CEDAR RAPIDS, IA.—The Hawkeye Tinshop, 96 Second Avenue, E., has installed an International Economy Furnace in the residence of F. M. Beltz.

Frank E. Russell, 1024 B Avenue, W., has the warm air heating contract for W. T. Hambright residence.

CEDAR RAPIDS, IA.—The Nauman Co., corner West Park Avenue and Cedar Street, has the roofing and sheet metal contract for residence of Ray Brown.

PORTLAND, ORE.—The Levin Furnace Co., 525 E. Broadway, has the warm air heating contract, and John Lahodney, 137 E. 87th Street, the sheet metal contract for residence of F. W. Goldenberg.

SEATTLE, WASH.—The Seattle Cornice Works, 1730 First Avenue, S., has been awarded the roofing contract for the Great Northern office building.

The American Furnace Corporation, 3205 Smith Bldg., is planning construction of a store at 100 First Avenue, N.

BERKELEY, CAL.—M. C. Henry, 1183 53rd Street, has the sheet metal contract for Marshall A. Dean apartment building.

SAN FRANCISCO, CAL.—Morrison & Co., 75 Duboce Avenue, have been awarded the sheet metal work contract for \$40,000 residence of Mrs. John L. Hyman.

OAKLAND, CAL.—The Sheet Metal Service Co., 2254 E. 14th Street, has the sheet metal contract for residence of Mrs. Kelly, of Berkeley, Cal.

PETALUMA, CAL.—The R. & D. Sheet Metal Co. has the sheet metal contract for store building of Geo. P. McNear.

SAN FRANCISCO, CAL.—J. Delucchi, 1526 Powell Street, has the sheet metal contract on building of Evergreen California Hats, Inc., and also for building of Bank of Italy, in that city.

LOS ANGELES, CAL.—The J. Rosin Cornice Works, 1460 S. Central Avenue, has the door, window and sheet metal contract for apartment building of Hope Street Associates, Inc.

ST. LOUIS, MO.—The Pecco Company, maker of industrial furnaces, 2951 N. Market Street, has changed its name to St. Louis Blow Pipe & Heater Co., Inc.

KALAMAZOO, MICH.—The Vogtman Metal Window Corp. has the metal window contract for \$500,000 Forrest Hotel, in Baltimore, Md.



Wisconsin Sheet Metal Contractors' Association, Milwaukee, Wisconsin, February 4 and 5, 1929. Secretary W. A. Belau, 317 McKinley Avenue, Milwaukee, Wisconsin.

Wisconsin Retail Hardware Association Convention and Exhibition, Auditorium, Milwaukee, Feb. 5, 6, 7, 8, 1929. P. J. Jacobs, secretary, Stevens Point. Exhibit manager, George W. Kornely, 1476 Green Bay Avenue, Milwaukee.

Michigan Retail Hardware Association Convention and Exhibition, Detroit, Feb. 5, 6, 7, 8, 1929. Headquarters, Hotel Statler. Exhibit at Convention Hall. A. J. Scott, secretary, Marine City.

Ohio Sheet Metal Contractors' Association, Columbus, Ohio, February 12, 13, 14, 1929. Arthur P. Lamneck, W. E. Lamneck Company, Columbus, Ohio, Chairman convention committee.

Illinois Retail Hardware Association Convention and Exhibition, Hotel Sherman, Chicago, Ill., Feb. 12, 13 and 14, 1929. P. M. Mulliken, managing director, Elgin, Ill.

Iowa Retail Hardware Association Convention and Exhibition, Hotel Savery and Des Moines Coliseum, Des Moines, Feb. 12, 13, 14, 15, 1929. A. R. Sale, secretary-treasurer, Mason City.

Minnesota Retail Hardware Association Convention, Feb. 19, 20, 21, 22, 1929, at Minneapolis Municipal Auditorium. Chas. H. Casey, manager-treasurer, Nicollet at Twenty-fourth Street, Minneapolis.

Michigan Sheet Metal & Roofing Contractors' Association, Flint, Michigan, March 5, 6, 7, 1929. Frank Ederle, 1121 Franklin Street, S. E., Grand Rapids, Michigan, Secretary.

Pennsylvania Sheet Metal Contractors' Association, Hotel Brunswick, Lancaster, Pennsylvania, April 2, 3 and 4, 1929. Secretary, W. F. Angelmyer, 7253 Frankstown Avenue, Pittsburgh, Pa.

National Warm Air Heating Association annual meeting, Claypool Hotel, Indianapolis, April 9, 10, 11, 1929. Secretary Allen W. Williams, 174 East Long Avenue, Columbus, Ohio.

Illinois Sheet Metal Contractors' Association, April 16, 17, 18, 1929, Peoria, Illinois. Secretary, Ralph W. Poe, 44 White Court, Canton, Illinois.

National Association of Sheet Metal Contractors of the United States, Lord Baltimore Hotel, Baltimore, Maryland, June 3 to 7, 1929. Secretary, W. C. Markle, 336 Fourth Avenue, Pittsburgh, Pennsylvania.

### The Friendliest Tree

The friendliest tree in the winter  
Is the steadfast, sturdy pine;  
It snuggles the little snowbirds,  
And invites the squirrels to dine.

It offers a cozy shelter  
From the driving winter snow;  
Among its dark green branches  
Its guests need fear no foe.

But the pine is a kindly refuge—  
The friendliest tree of all.  
The neighbor trees are leafless  
When the storm king's bugles call;



# RANDOM NOTES AND SKETCHES

"Yes Sir," said Dave Farquhar of T. & B. Register Company, when I saw him in Indianapolis the other day, "C. L. Sapp of the Farquhar Furnace Company and I used to have the best kind of a racket. We were in partnership, but we didn't carry the same goods. My partner used to go around selling a stove polish that left a stain on the fingers, and then I would follow him the next day with the only kind of soap that would take the stain off. It worked fine until somebody thought we were bootlegging and tipped the thing off to the prohibition agents."

\* \* \*

"I shall have to ask you for a ticket for that boy, ma'am," said the conductor to Mrs. Class of Indianapolis, recently.

"I guess not."

"He's too old to travel free. He occupies a whole seat and the car's crowded. There are people standing."

"I can't help that."

"I haven't time to argue this matter, ma'am. You'll have to pay for that boy."

"I never paid for him yet."

"You'll pay for that boy, ma'am, or I'll stop the train and put him off."

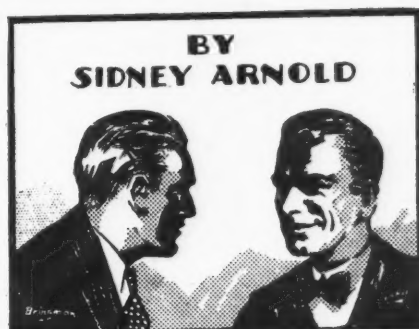
"All right: put him off if you think that's the way to get anything out of me."

"You ought to know the rules of this road, ma'am. How old is that boy?"

"I don't know. I never saw him before."

\* \* \*

Whenever I go to a convention it is customary for me to wear a derby hat. This fact has no special significance, but my peculiar aversion to the felt when going conventioning has cost me considerable in the



way of worry and not a little in actual money outlay. Down at Indianapolis last week I had what I thought was going to be a pleasure in the company of Fred Heads and Bill Schwartz of the Hart & Cooley Register Manufacturing Company at breakfast. They entered a restaurant where I happened to be eating breakfast. With a sweeping gesture I invited them to sit at my table. Bill, being the first one in, seated himself immediately upon my left, but rose rather precipitately when he discovered that he had landed with his full weight upon my new derby hat. So there goes the price of another derby hat, but I'm going to continue to wear a derby hat to conventions, and in addition I think I shall copy the style of my old friend, Harry Rhodes, of Grand Rapids, Michigan, and wear a red necktie with it. In spite of the crushed hat, I enjoyed the company that morning at breakfast just the same.

\* \* \*

Henry Schwab and A. G. Pomering of R. J. Schwab & Sons Company, Milwaukee, Wisconsin, were in Chicago on Thursday of this week and dropped in for a few moments to say a few words. They are all set for the convention of the



Wisconsin Sheet Metal Contractors, which will be held in Milwaukee on Monday and Tuesday of next week. "Pom" said he had a lot of new jokes, but would tell me none of them. He did say, however, that if I would come to Milwaukee that he would tell some of them to me there.

\* \* \*

Donald (to wife at English railway station)—"Wha! Ye canna get a porter tae tak oor luggage?"

Wife—"Na, na. Ye try, Donal', ye're accent's no' quite sae noticeable."

\* \* \*

Janet: "Jack says he can read you like a book."

Olive: "Yes, and darn him, he wants to use the Braille system."

\* \* \*

Lady (at bargain counter): "Is my face dirty, or is it just my imagination?"

Paul R. Jordan, Indianapolis. "Do you indulge greatly in the terpsichorean art?"

Mrs. Joe Mattingly (at the recent Sheet Metal Contractors' convention banquet dance), "Oh, why bother about such things? Let's dance."

\* \* \*

The doctor answered the phone. Turning to his wife, he said: "Quick, get me my satchel. The man says he cannot live without me!"

"Just a minute," said his wife, who had picked up the receiver. "That call is for Ethel."

\* \* \*

Dorothy: "But, surely, you didn't tell him straight out that you loved him?"

Jane: "Goodness, no. He simply had to squeeze it out of me."

# January 1929 Seen as Record Month in Steel

*New Business at Peak—More Uniform Strength Shown in Non-Ferrous Metals*

**W**HAT is undoubtedly the best January in the history of the iron and steel industry from the standpoint of production and the best peacetime January in point of new business and specifications is closing.

From the nature of recent orders and pending inquiry, this gait will be maintained. The great bulk of commitments represents tonnage requirements, specifications for which will flow over a number of months.

Delivery continues the prime factor in most finished steel markets, to the exclusion of price in most cases, despite what appears to have been a record steel output in January.

Steel production on the whole exceeds a year ago, when the industry was gathering its strength for the push that culminated in an all-time record in April. Chicago, as usual at this season because of railroad tonnage, leads all districts. Steel mills there are operating at 90 per cent, and the second blast furnace in two weeks has been lighted.

Pittsburgh producers are averaging 85 per cent and those at Buffalo 88 per cent. Mills in the Mahoning valley are as near capacity as operating conditions permit. Sheet mills in every district save Chicago are approximating 100 per cent, with strip and tin plate mills close to that rate. Steel corporation subsidiaries are operating this week at 86 per cent, up one point.

Buying of nonferrous metals in the past week has been moderate, but more uniform strength has been shown than in some time past. Tin has been an exception, with the lowest prices prevailing since last autumn.

Price fluctuations in metals other than tin have been almost entirely absent, but it would not take much additional buying of lead and zinc to increase quotations on these two metals.

## Copper

Buying has been light in the domestic market since the price rise of a week ago. Users are well covered through April and have bought a little for May. Most users are better covered ahead than in several years. The export price went to 17.25 cents c.i.f. European ports immediately after the increase here, and while business in that direction has not been as large as in the previous week, it has held up better than domestic. Foreign users still have much copper to buy for March and April.

## Zinc

Prime western metal continues firm at 6.35 cents, East St. Louis. Buying is light, mostly for early shipment. Smelters estimate from their bookings that galvanizers will have to buy much metal soon for February and March shipments. The ore market continues unchanged at \$40 a ton. It is thought the selling agency just formed in the Joplin district may be instrumental in putting the industry there in sounder position. Higher prices for ore would mean a rise in prime western metal, it is said.

## Tin

Buying of Straits tin by users was large for several days, but has fallen off. The course of prices has switched several times in the past week or two, but the general trend has been downward. World consumption probably is larger than ever before, but production furnishes abundant supplies. Spot and futures lately have been selling mostly at the same price.

## Lead

Prices have been unchanged, but the market is strong, with producers well sold and waiting only for London prices to go up and permit quotations here to advance. Some buying remains to be done for February and much for March.

## Pig Iron

Pig iron producers at Chicago

again are shipping from stocks, despite the opportunity they expected this month to build up depleted piles. High scrap quotations are tending to induce melters to increase orders. Negotiations have been under way for shipments of pig iron next season from the Buffalo district. Liquidation of charcoal iron stocks has brought out some irregular prices, but shipments now are being made largely on a \$24, Lake Superior furnace, base. The price of \$20, Chicago furnace, is reported firm for the base foundry and malleable grades.

Spot buying of pig iron at Birmingham is slow and delivery also is easier. Production is steady. Some melters have held up delivery for a time. Cast iron pipe plants increased production this week.

From the standpoint of new business, the pig iron market at Pittsburgh lacks feature. Inquiry continues restricted and buyers are entering the market for only a few carloads at a time.

Furnace operations still are active, however, and shipments are well maintained, with most users covered. New buying is not replacing tonnage that is being moved, since it is too early for second quarter coverage. Prices fail to display strength.

The recent sale of a tonnage of No. 2 foundry at \$17.50, base, valley, has been followed by additional business in small lots at the same price.

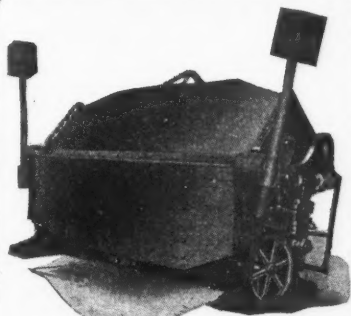
The market generally has settled to that level. A steel works interest is understood to have taken an order for 1,000 tons of Bessemer, placed in this district below the recently prevailing price of \$18.25, valley.

One bid of \$18, also by a steel works, failed to obtain the business. It is reported this represented surplus iron, and it is doubted if the sale could be repeated.



## CHICAGO STEEL BENDING BRAKES AND FORMING PRESSES

The perfected result of over 30 years experience in the manufacture of sheet metal bending machines. Over 25,000 machines in use.



POWER BRAKE

Hand Brakes  
Cornice Brakes  
Power Brakes  
Box and Pan Brakes  
Forming Presses  
Special Brakes and Presses



FORMING PRESS

The most complete and up-to-date line of sheet and plate bending and forming machines in the world. Lengths, 3 to 16 feet, with capacity to bend from the lightest metals up to  $\frac{3}{4}$  in. plate, cold.

**DREIS & KRUMP MANUFACTURING CO.**

7404 Loomis Street • Chicago



### "Torrid" Tinner's Furnaces

have stood the test of time. Imitations come, go, are changed but "Torrid" standard is unalterable and price always right.

**GEO. W. DIENER MFG. CO., CHICAGO**

Makers of fine Blow Torches and Fire Pots.

### -B.B.- LINE OF SHEET METAL SUPPLIES

B.B. CONDUCTOR HOOKS AND GUTTER HANGERS  
"SHUR-LOCK" CONDUCTOR PIPE  
OCTAGON AND POLYGON CONDUCTOR PIPE  
"E-Z FIT" EAVES TROUGH  
"QUAKER CITY" MITRES, ENDS, CAPS AND  
OUTLETS  
EAVE TROUGH STRAP AND ROD HANGERS  
ORNAMENTAL CONDUCTOR STRAPS AND ENDS

YOUR JOBBER CARRIES THEM IN  
STOCK FOR PROMPT SHIPMENT

Manufactured by

**BERGER BROS. CO.**

229 to 237 ARCH STREET

PHILADELPHIA

## MASHALLTOWN Rotary Throatless Shears

ONLY three moving Parts—takes sheets of unlimited width and up to  $\frac{1}{2}$  inch gauge. Cuts curves in any direction—straight—circular or any irregular shape desired. Easy to operate—hand or power—nothing to get out of order—a speedy worker and the shear keeps sharp even after months of hard use.



Other  
MARSHALLTOWN  
Machines  
No. 18 HAND  
POWER  
THROATLESS  
SHEARS—FOR  
EVERY SHOP  
PLATE  
BENDING  
ROLLS  
PRESSURE  
GAUGES  
SPLITTING  
SHEARS  
BEVEL SHEARS  
PUNCH  
PRESSES, ETC.



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Marshalltown  
Throatless  
Shear in  
action

Write to  
Dept. AA  
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Complete  
catalog

MARSHALLTOWN MANUFACTURING CO.  
MARSHALLTOWN, IOWA

# Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

## METALS

### PIG IRON

Chicago Fdy., No. 2	\$20 00
Southern Fdy. No. 2	22 51
Lake Superior Charcoal	27 04
Malleable	20 00

### FIRST QUALITY BRIGHT CHARCOAL TIN PLATES

IC 20x28 112 sheets	\$22 50
IX 20x28	26 50
IXX 20x28 56 sheets	14 50
IXXX 20x28	15 50
IXXXX 20x28	17 00

### TERNE PLATES

IC 20x28, 40-lb. 112 sheets	Per Box \$26 70
IX 20x28, 40-lb. 112 sheets	29 70
IC 20x28, 25-lb. 112 sheets	22 20
IX 20x28, 25-lb. 112 sheets	25 20
IC 20x28, 20-lb. 112 sheets	20 25
IV 20x28, 20-lb. 112 sheets	23 00

### "ARMCO" INGOT IRON PLATES

No. 8 ga.—100 lbs.	\$4 15
3/16 in.—100 lbs.	4 05
1/4 in.—100 lbs.	3 85

### COKE PLATES

Cokes, 80 lbs., base, 20x28	\$12 00
Cokes, 90 lbs., base, 20x28	12 20
Cokes, 100 lbs., base, 20x28	12 40
Cokes, 107 lbs., base, IC	
20x28	12 75
Cokes, 135 lbs., base, IX	
20x28	14 75
Cokes, 155 lbs., base, 2X,	
56 sheets	8 50
Cokes, 175 lbs., base 3X,	
56 sheets	9 35
Cokes, 195 lbs., base 4X,	
56 sheets	10 25

### BLUE ANNEALED SHEETS

Base 10 ga.—per 100 lbs.	\$3 35
"Armco" 10 ga.—per 100 lbs.	4 15

### ONE PASS COLD ROLLED BLACK

No. 18-20	per 100 lbs. \$3 60
No. 22	per 100 lbs. 3 75
No. 24	per 100 lbs. 3 80
No. 26	per 100 lbs. 3 90
No. 27	per 100 lbs. 3 95
No. 28	per 100 lbs. 4 05
No. 29	per 100 lbs. 4 20
No. 30	per 100 lbs. 4 30

### "ARMCO" GALVANIZED

"Armco" 24	per 100 lbs. \$6 15
------------	---------------------

### GALVANIZED

No. 16	per 100 lbs. \$4 15
No. 18	per 100 lbs. 4 30
No. 20	per 100 lbs. 4 45
No. 22	per 100 lbs. 4 50
No. 24	per 100 lbs. 4 65
No. 26	per 100 lbs. 4 90
No. 27	per 100 lbs. 5 00
No. 28	per 100 lbs. 5 15
No. 30	per 100 lbs. 5 55

### BAR SOLDER

Warranted 50x50	per 100 lbs. \$31 00
Commercial 45-55	per 100 lbs. 28 50
Plumbers	per 100 lbs. 26 00

### ZINC

In Slabs	\$ 7 25
SHEET ZINC	
Cask Lots (600 lbs.)	\$11 25
Sheet Lots	12 25

### BRASS

Sheets, Chicago Base	22 1/2 c
Mill base	21 1/2 c
Tubing, brazed base	29 1/2 c
Wire, base	22 c
Rods, base	19 1/4 c

### COPPER

Sheets, Chicago base	26 1/2 c
Mill base	25 1/2 c
Tubing, seamless base	27 1/2 c
Wire, plain rd., 8 B. & S. Ga. and heavier	24 1/2 c

### LEAD

American Pig	\$7 50
Bar	8 50

### TIN

Pig Tin	per 100 lbs. \$53 00
Bar Tin	per 100 lbs. 50 00

## HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

### ASBESTOS

Paper up to 1/16	.6c per lb.
Roll board	.6 1/2 c per lb.
Mill board 3/32 to 1/2	.6c per lb.
Corrugated Paper (250 sq. ft. to roll)	\$6 00 per roll

### BRUSHES

Furnace Pipe Cleaning Bristle with handle	each \$0 75
Flue Cleaning Steel only, each	1 25

### CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 45
American Seal, 10-lb. cans, net	85
American Seal, 25-lb. cans, net	2 25
Pecora	per 100 lbs. 7 50

### CHIMNEY TOPS

Adams' Revolving	Wt. Doz.	Price Doz.
4 in.	21 lbs.	\$11 00
6 in.	24 lbs.	11 50
7 in.	30 lbs.	13 50
8 in.	33 lbs.	15 00
9 in.	51 lbs.	16 50
10 in.	56 lbs.	18 00
12 in.	66 lbs.	22 00
14 in.	110 lbs.	36 00

### CLINKER TONGS

Each	\$1 50
------	--------

### CLIPS

Damper No-Rivet Steel, with tail pieces, per gross	\$9 50
Rivet Steel, with tail pieces, per gross	7 50
Tail pieces, per gross	2 40

### COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

### CORNICE BRAKES

Chicago Steel Bending Nos. 1 to 6B	Net
------------------------------------	-----

### CUT-OFFS

Gal. plain, round or cor. rd.	
26 gauge	.30%
28 gauge	.35%

### DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.	\$1 60
8 inch, each 25c, doz.	2 20
9 inch, each 30c, doz.	2 60
10 inch, each 32c, doz.	2 80
Smoke Pipe	
7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	3 00
10 inch, doz.	3 75
12 inch, doz.	4 50

### ADAMS No. 1 CHECK

Check and Collar Complete	
8 inch, each	2 00
9 inch, each	2 25
End Check Only	
8 inch, each	1 60
9 inch, each	1 85
Collar Only	
8 inch, each	50
9 inch, each	65

### No. 2 CHECK

8 inch, each	1 00
9 inch, each	1 00
10% Disc. on Adams No. 1 and No. 2 Check	
Diamond Smoke Pipe	
7 inch, doz.	\$2 00
8 inch, doz.	3 20
9 inch, doz.	4 80
10 inch, doz.	6 00

### Adams' Sheet Metal

7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	2 80
12 inch, doz.	3 50
14 inch, doz.	5 00

### EAVES TROUGH

Galv. Crimped, crated 75 & 10%	
Zinc, "Barnes"	.60%

### ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp,	
28 Gauge	.60%
26 Gauge	.45%
24 Gauge	.15%

### Galv. Terne Steel

Plain Rd. and Rd. Corr.:	
28 Ga.	.60%
26 Ga.	.45%
24 Ga.	.15%

### Square Corrugated

No. 28 Gauge	.50%
26 Gauge	.35%

### Portico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested	.70 & 5%
Nested Solid	.70 & 5%

### Sq. Corr., A. & B. & Octagon

28 Ga.	.50%
26 Ga.	.35%

### Portico

1", 1 1/4", 1 1/2"	.45%
--------------------	------

### Copper

16 oz., all designs	.50%
---------------------	------

### Zinc

All styles	.60%
------------	------

### ELBOWS—Stove Pipe

1-piece Corrugated. Uniform Blue "Milcor" Nq. 28 Gauge. Doz.	
5-inch	\$1 15
6-inch	1 25
7-inch	1 75
Special Corrugated	
6-inch	\$1 00
7-inch	1 60

### Adjustable—Uniform Blue

"Milcor" No. 28 Gauge. Uniform Blue.	
5-inch	\$1 60
6-inch	1 75
7-inch	2 10
WOOD FACES—60% off list.	

### FENCE

726-6-12 1/4 (100 rods)	\$28 68
1948-6-14 1/4 (100 rods)	43 62

### FILES AND RASPS

Heller's (American)	.50-10%
American	.60-10%
Arcade	.50%
Black Diamond	.50%
Eagle	.50%
Great Western	.50%
Kearney & Foot	.50%
McClellan	.50%
Nicholson	.50%
Simonds	.60%

### FIRE POTS

Geo. W. Diener Mfg. Co. Ea.	
No. 02 Gasoline Torch, 1 qt.	\$ 5 13
No. 9250, Kerosene, or Gasoline Torch, 1 qt.	6 50
No. 10 Tinner's Furn. Square tank, 1 gal.	11 20
No. 15 Tinner's Furn. Round tank, 1 gal.	10 70
No. 21 Gas Soldering Furnace	8 60
No. 110 Automatic Gas Soldering Furnace	10 50

Quick Meal Stove Co.	
Vesuvius, F. O. B. St. Louis	20%
(Extra Disc. for large quantities.)	

### GALVANIZED WARE

Pails (Galv. after made), 10-qt.	\$2 00
Tubs (Galv. after made), No. 1	5 75
No. 2	6 50

### GLASS

Single Strength, A, all brackets	.87%
Single Strength, B, all brackets	.88-5%
Double Strength, A, all brackets	.87%
Double Strength, B, all brackets	.88-5%

### HANGERS

Conductor Pipe	
Milcor Perfection Wire	.25%
Milcor Triplex Wire	.10%
Eaves Trough	
Milcor Steel (galv. after forming) List	plus 12 1/2%
Milcor Selflock E. T. Wire, List	plus 50%

### HOOKS

Conductor "Direct Drive" Wrought Iron for wood or brick	.15%
---	------

### HUMIDIFIER

"Front-Rank," Automatic	
In single lots	.50%
In lots of 10 or more	.50-5%
In lots of 25 or more	.50-10%
Vapor pans, etc., each	.50%

### LIFTERS

Stove Cover	
Coppered	per gro. \$6 00
Alaska	per gro. 4 75

### MALLETS

Tinners Hickory	per doz. \$2 25
-----------------	-----------------

### MITRES

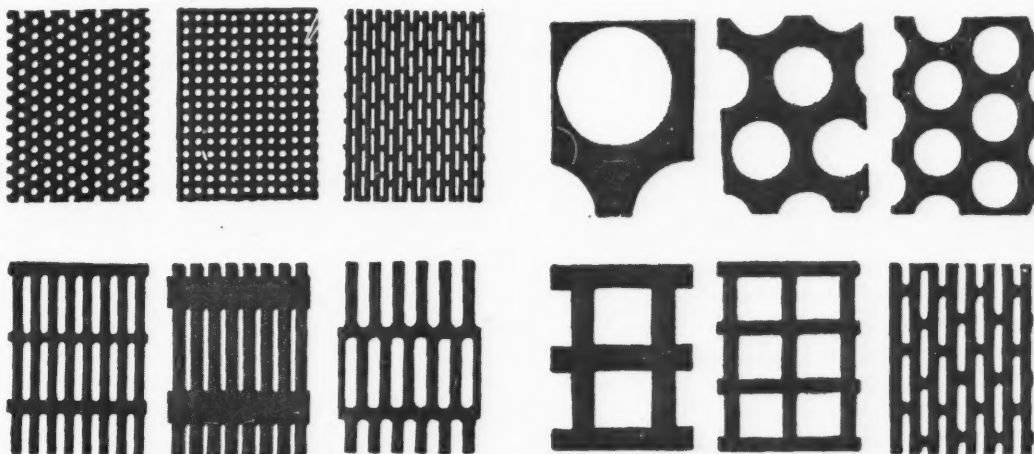
Galvanized steel mitres	
28 Ga.	.70
26 Ga.	.60-30

### NAILS

Cut Steel, base	\$4 00
Wire	
Common	\$3 10
Cement Coated	3 10

(Continued on page 32)

## PERFORATED METALS



All Sizes and Shapes of Holes in all Kinds and Thicknesses of Metal.

Punched Metal Grilles, Register Faces, Ventilators, etc.

Guard Material for Machines and Belts. We supply a complete line of Accessories

Screens for Grain, Minerals or anything to be screened.

Perforated Tin and Brass always in stock

# THE HARRINGTON & KING PERFORATING CO.

5649 FILLMORE STREET, CHICAGO, ILLINOIS, U. S. A.

New York Office: 114 Liberty Street

### The NEW IMPROVED "STANDARD"

#### Rotable Ventilator

Now made of Armco Iron

This favorite cone-shaped ventilator is now improved in several important points.

The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

The bronze Guide Bushings are now made of non-corrosive bronze which minimizes friction and any tendency to screech when body is rotating.

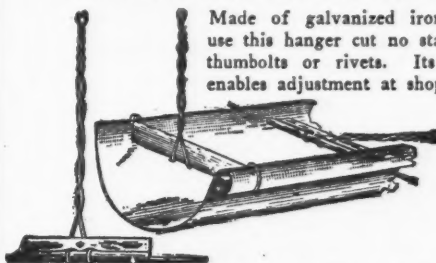
There are other new features. Write today for new catalog and price list.



Patents pending

STANDARD VENTILATOR CO., Lewisburg, Pa.

### A Revolution In Gutter Hanging



Made of galvanized iron or copper. To use this hanger cut no stays, use no solder, thumbbolts or rivets. Its hinge movement enables adjustment at shop. Nothing to do at building but drive nail.

Make joints in the bead of gutter with hanger adjusted without catching under

the eaves. Stay wire being adjustable, it will hang any kind of hanging eave trough, OG or Box Gutter.

Made in sizes 3, 3½, 4, 4½, 5, 6, 7, 8 and 10 inches.

Packed 1 gross in a package.

THE HORAN STAY HANGER CO., Louisville, Ky.

If you are in need of any tools or machines and you don't see them advertised or listed in the BUYERS' DIRECTORY write to the NOTES AND QUERIES DEPT. of American Artisan—we can tell you where to obtain any Sheet Metal Working Tools and Machines made.

## RYERSON SHEETS

IMMEDIATE SHIPMENT FROM STOCK

More than twenty kinds of Prime quality sheets are carried in stock. There is a special sheet for every purpose. Also Bars, Angles, Rivets, Bolts, Tools and Metal-Working Machinery. Write for Journal and Stock List.

JOSEPH T. RYERSON & SON INC.

Chicago Milwaukee Jersey City Boston Detroit St. Louis Cincinnati Cleveland Buffalo



Send for catalog today

## VIKING SHEAR

Compound LEVER Handle—Removable Blades

A child can work them

VIKING SHEAR CO., Erie, Pa.

Say you saw it in AMERICAN ARTISAN—Thank you!



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## PASTE

### Asbestos Dry Paste:

200-lb. barrel .....\$14 00  
100-lb. barrel ..... 7 50  
50-lb. pail ..... 4 25  
10-lb. bag ..... 1 00  
5-lb. bag ..... 55  
2½-lb. cartons ..... 25

## RIDGE ROLL

Galv., Plain Ridge Roll, b'dld .....75-15-5%  
Galv., Plain Ridge Roll crated .....75-15%

## POKERS, FURNACE

Each .....\$0 75

## POKERS, STOVE

Nickel Plated, coil handles, per doz. .... 1 10  
W'r't Steel, str't or bent, per doz. ....\$0 75

## PIPE

Conductor  
Cor. Rd., Plain Rd., or Sq.

### Galvanized

Crated and nested (all gauges) .....75-7½%  
Crated and not nested (all gauges) .....75 2½%

### Furnace Pipe

Double Wall Pipe and Fittings .....60%  
Single Wall Pipe, Round Galvanized Pipe .....60%  
Galvanized and Tin Fittings .....60%

### Lead

Per 100 lbs. ....\$12 50

### Stove Pipe

"Milcor" "Titelock" Uniform Blue Stove  
28 gauge, 5 inch U. C. nested ..... 11 00  
28 gauge, 6 inch U. C. nested ..... 12 00  
28 gauge, 7 inch U. C. nested ..... 14 00  
30 gauge, 5 inch U. C. nested ..... 10 25  
30 gauge, 6 inch U. C. nested ..... 11 00  
30 gauge, 7 inch U. C. nested ..... 13 00

### T-Joint Made up

6-inch, 22 ga. per doz. \$ 40  
All Zinc  
No. 11, all styles ... .. 60%

## PULLEYS

Furnace Tackle....per doz. \$0 85  
.....per gro. 8 50  
Furnace Screw (enameled) .....per doz. 75

## PUTTY

Commercial Putty, 100-lb. Kits .....\$3 50

## QUADRANTS

Malleable Iron Damper.....10%

## REDUCERS—Oval Stove Pipe

Per Doz.  
7-6, 28-gauge, 1 doz. in carton .....\$2 00

## REGISTERS AND BORDERS

### Baseboard, Floor and Wall

Cast Iron .....20%  
Steel and Semi-Steel .....33½%  
Baseboard, 1 piece .....33½-20%  
Baseboard, 2 piece .....33½%  
Wall .....33½%  
Adjustable Ceiling Ventilators .....33½%

### Register Faces—Cast and Steel

Japanned, Bronzed and Plated, 4x6 to 14x14.....33½%  
Large Register Faces—Cast, 14x14 to 38x42 .....50%  
Large Register Faces—Steel, 14x14 to 38x42 .....60%

### Ventilating Register

Per gross ..... 9 00  
Small, per pair ..... 30  
Large, per pair ..... 50

## SCREWS

### Sheet Metal

7, ½x½, per gross .....\$0 52  
No. 10, ¾x3/16, per gross 63  
No. 14, ¾x¼, per gross.. 33

## SHEARS, TINNERS' & MACHINISTS'

Viking .....\$22 00

### Lennox Throatless

No. 18 .....35%  
Shear blades .....10%  
(f o b. Marshalltown, Iowa)

## SHIELDS, ADJUSTABLE RADIATOR

No. 1 "Gem" 11" to 17"....30%  
No. 2 "Gem" 14" to 24"....30%  
No. 3 "Gem" 35" to 65"....30%

## SHOES

Galv. 28 Gauge, Plain or corrugated round flat crimp..60%  
26 gauge round flat crimp..45%  
24 gauge round flat crimp..15%

## SNIPS, TINNERS

Clover Leaf .....40 & 10%  
National .....40 & 10%  
Star .....50%  
Milcor .....Net

## SQUARES

Steel and Iron .....Net  
(Add for bluing \$3 per doz. net)  
Mitre .....Net  
Try .....Net  
Try and Bevel .....Net  
Try and Mitre .....Net  
Fox's .....per doz. \$6 00  
Winterbottom's .....10%

## STOPPERS, FLUE

Common .....per doz. \$1 10  
Gem, No. 1 .....per doz. 1 10  
Gem, flat, No. 3....per doz. 1 90

## VENTILATORS

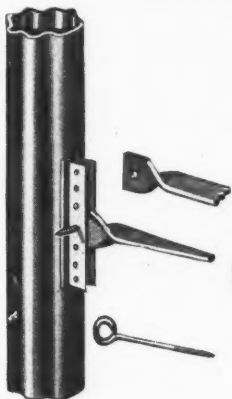
Standard .....30 to 40%

## WIRE

Black annealed wire, No. 9, per 100 lbs. ....\$3 30  
Galvanized barb wire, per 100 lbs. .... 3 50  
Cattle Wire—galvanized catch weight spool, per 100 lbs.. 3 80  
Galvanized Plain Wire, No. 9, per 100 lbs. .... 3 25

## A. H. K. FASTENER

HAVE  
YOU  
SEEN  
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?



WRITE  
FOR  
FREE  
SAMPLE

**FRIEDLEY-VOSHARDT CO.**  
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CHICAGO, ILL.

## VESUVIUS BLOW TORCHES



For Gasoline

in pint or quart sizes.

With quickly removable soldering iron hooks.

Vesuvius Blow Torches are made of brass or non-corrosive oxydized terne plate. The latter is particularly recommended for hard usage.

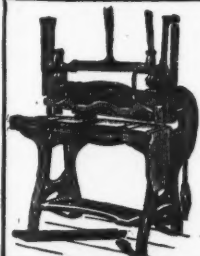
Write for prices and illustrated circular today

**QUICK MEAL STOVE COMPANY**

Div. American Stove Company

825 Chouteau Ave.

St. Louis, Mo.



## TREADLE SHEAR

This TREADLE GAP SHEAR is made in all standard sizes for No. 14 and lighter gauge sheets. With it, sheets can be squared, trimmed or slit.

We make a complete line of shears, punches and bending rolls, all sizes for hand or belt drive. Write for Catalog "S."

**BERTSCH & COMPANY**

Cambridge City, Ind.

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AMERICAN ARTISAN advertisers are *reliable*. Whether or not you are *now* in the market they are always glad to give you information regarding their products or services. Make sure of dealing with *reliable* concerns by doing business with AMERICAN ARTISAN advertisers. Look through the advertising pages—also refer to the BUYERS DIRECTORY.

Round  
Corrugated



Plain Round



NEVER MADE WITHOUT THIS

TRADE *F. Dieckmann* MARK

*Quality and Service Made 'em Famous*

Made of one piece of heavy gauge material, in all styles and angles from 10 to 90 degrees, of 24, 26, 28 ga. ternes, then galvanized after formation.

## DIECKMANN Elbows and Shoes

*are the standard of the market  
and always give satisfaction*

Send for new catalogue 26 showing complete line

**The Ferdinand Dieckmann Co.**

P. O. Station B, Cincinnati, O.

Square  
Corrugated  
Style A



Square  
Corrugated  
Style B



Not made lighter than  
28 ga. or 16 oz. copper

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B. & F. Mfg. Co., Des Moines, Ia.  
**Acetylene (Gas) Dissolved.**  
Prest-O-Lite Co., Inc.,  
New York, N. Y.

**Bench—Steel**  
Maplewood Machinery Co.,  
Chicago, Ill.

**Bolts—Stove.**  
The Kirk-Latty Co.,  
Cleveland, Ohio  
Lamson & Sessions Co.,  
Cleveland, Ohio  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Brakes—Bending.**  
Dreis & Krump Mfg. Co.,  
Chicago, Ill.  
Ryerson & Son, Inc., Jos. T.,  
Chgo., N. Y., St. L., Det., Cleve.

**Brakes—Cornice.**  
Dreis & Krump Mfg. Co.,  
Chicago, Ill.

**Brass and Copper.**  
American Brass Co.,  
Waterbury, Conn.  
Copper & Brass Research As-  
sociation, New York

**Cans—Garbage.**  
Osborn Co., The J. M. & L. A.,  
Cleveland, Ohio

**Castings—Malleable.**  
Fanner Mfg. Co., Cleveland, Ohio

**Ceilings—Metal.**  
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Mil., Ch'go, La Crosse, Kan. City  
Wheeling Corrugating Co.,  
Wheeling, W. Va.

**Chaplets.**  
Fanner Mfg. Co., Cleveland, Ohio

**Chimney Tops.**  
Standard Ventilator Co.,  
Lewisburg, Pa.

**Clinker Tongs.**  
L. J. Mueller Furnace Co.,  
Milwaukee, Wis.  
Stover Mfg. & Engine Co.,  
Freeport, Ill.

**Copper.**  
American Brass Co.,  
Waterbury, Conn.  
Copper & Brass Research As-  
sociation, New York  
**Cornices.**  
Friedley-Voshardt Co.,  
Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Cutting Blowpipes.**  
Oxweld Acetylene Co.,  
New York, N. Y.

**Cut-offs—Rain Water.**  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Dampers—Quadrants—Accessories.**  
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Mil., Ch'go, La Crosse, Kan. City  
L. J. Mueller Furnace Co.,  
Milwaukee, Wis.  
Parker-Kalon Corp.,  
New York, N. Y.  
Stover Mfg. & Engine Co.,  
Freeport, Ill.

**Damper Regulators.**  
National Regulator Co.,  
Chicago, Ill.  
H. M. Sheer Co.,  
Quincy, Ill.  
Thermo-Control Regulator Co.,  
Youngstown, Ohio

**Dies—Punch & Press.**  
La Salle Machine Works,  
Chicago, Ill.

**Diffuser—Air Duct.**  
Aeolus-Dickinson Co., Chicago, Ill.  
L. J. Mueller Furnace Co.,  
Milwaukee, Wis.

**Doors—Metal.**  
Lupton's Sons Co., David,  
Philadelphia, Pa.

**Drive Screws—Hardened Metallic.**  
Parker-Kalon Corp.,  
200 Varick St., New York

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Barnes Metal Products Co.,  
Chicago, Ill.  
Berger Bros. Co.,  
Philadelphia, Pa.  
Berger Co., L. D.,  
Philadelphia, Pa.  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
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New Jersey Zinc Sales Co., The,  
New York, N. Y.  
Wheeling Corrugating Co.,  
Wheeling, W. Va.

**Elbows and Shoes—Conductor.**  
Barnes Metal Products Co.,  
Chicago, Ill.  
Dieckmann Co., Ferdinand,  
Cincinnati, Ohio  
Lupton's Sons Co., David,  
Philadelphia, Pa.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Wood Faces—Warm Air.**  
Auer Register Co., Cleveland, Ohio  
American Wood Register Co.,  
Plymouth, Ind.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Fittings—Conductor.**  
Barnes Metal Products Co.,  
Chicago, Ill.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Flanges.**  
Chicago Metal Mfg. Co.,  
Chicago, Ill.

**Fittings—Steel Pipe.**  
Chicago Metal Mfg. Co.,  
Chicago, Ill.

**Flue Thimbles.**  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Furnace Cement—Asbestos.**  
Connors Paint Mfg. Co., Wm.,  
Troy, N. Y.  
Milwaukee Corrugating Co.,  
Mil., Ch'go, La Crosse, Kan. City

**Furnace Cement—Liquid.**  
Technical Products Co.,  
Pittsburgh, Pa.

**Furnace Cleaners—Suction.**  
Brillion Furnace Co., Brillion, Wis.

**Furnace Coloring (Enamel).**  
B & F Mfg. Co., Des Moines, Iowa

**Furnace Fans.**  
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**Furnace Regulators.**  
National Regulator Co.,  
Chicago, Ill.  
H. M. Sheer Co.,  
Quincy, Ill.  
Thermo-Control Regulator Co.,  
Youngstown, Ohio

**Furnace Rings.**  
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Foundries Co., Cleveland, Ohio  
Milwaukee Corrugating Co.,  
Milwaukee, Wis.

**Furnaces—Gas.**  
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Mueller Furnace Co., L. J.,  
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**Furnaces—Warm Air**  
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Brillion Furnace Co., Brillion, Wis.  
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Farris Furnace Co.,  
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Floral City Heater Co.,  
Monroe, Mich.  
Forest City-Walworth Run Fdy.,  
Cleveland, Ohio  
Fox Furnace Co., Elyria, Ohio  
Hall-Neal Furnace Co.,  
Indianapolis, Ind.

Henry Furnace & Fdy. Co.,  
Cleveland, Ohio  
Hess-Snyder Co., Massillon, Ohio  
Homer Furnace Co.,  
Coldwater, Mich.

Lennox Furnace Co.,  
Marshalltown, Ia.; Syracuse, N. Y.  
Liberty Foundry Co.,  
St. Louis, Mo.  
Magirl Foundry & Furnace Co.,  
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May-Fiebeger Furnace Co.,  
Newark, Ohio

Marshall Furnace Co.,  
Marshall, Mich.  
Meyer Furnace Co., The, Peoria, Ill.  
Midland Furnace Co.,  
Columbus, Ohio

Mt. Vernon Furnace & Mfg. Co.,  
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Mueller Furnace Co., L. J.,  
Milwaukee, Wis.

Oakland Foundry Co.,  
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Dowagiac, Mich.  
Richardson & Boynton Co.,  
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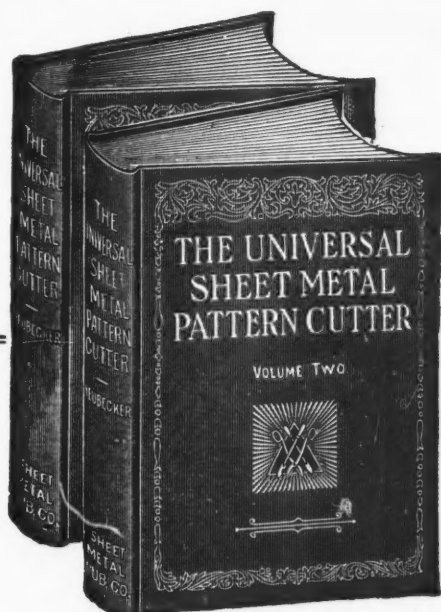
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(Continued on page 36)





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(Continued from page 34)

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Wanted—First class sheet metal and furnace man as working foreman. Must be able to handle men and get results from same. Also able to figure jobs and layout and make up anything in the line of sheet metal and furnace work. No booze fighters wanted. Must be able to invest some money in the business. Salary \$40.00 to start. Steady work guaranteed for the right man. Address O-490, AMERICAN ARTISAN, 620 So. Michigan Ave., Chicago, Ill.

Tinner Wanted—A good, clean, young tinner that can erect and repair windmills and pumps, install furnaces and do all kinds of work that comes into a hardware store in a town of 4,000 people situated in a very rich farming country in the southeast corner of South Dakota. Steady job the year round for the right man. State wages in first letter and give references. No boozers need apply. Address, Fitzgerald Hardware Co., Madison, S. D. T-490

There is an opportunity in this city in connection with our firm for a young man to build up for himself position as retail salesman. Future and money depends on him. If he can stand plenty of grief, hard work and disappointment he may apply by letter to Jack Stowell, 14 S. LaSalle St., Aurora, Ill. Give full particulars as to age, past business experience, church attended, nationality, education, etc. E-491

Wanted—Experienced tinner and furnace man to do general sheet metal work and furnace installation. Must be sober and steady. Steady work the year round in the oldest and most reliable shop in town of 9,000. State age, experience and salary wanted. Address W. H. Gates & Son, Scotts Bluff, Nebr. W-490

Wanted—Several experienced men to sell warm air heating installations. We need good men at once. Splendid opportunity to make real money for those who know the business. Apply Mr. Calhoun, Round Oak Heating Company, 711 So. Wells St., Chicago, Ill. M-490

Wanted—Mechanic for tin and plumbing shop; also warm air heating and pumps. In business 28 years; last two mechanics here 16 and 8 years, respectively. Good wages to right man. No layoffs. Boozers not considered. Address E. L. Garden, Souris, N. D. D-491

## HELP WANTED

Help Wanted—First-class sheet metal worker with experience in heating and ventilating. Must lay out own patterns. State wages expected and when you can report for work. Cheap living conditions. Address Gust Krack & Son, Inc., 1015 West 18th St., Erie, Pa. X-490

## TINNERS' TOOLS

We are in the market for several items of used sheet metal machinery for the working of the medium and heavy sheets. What have you to sell in this line? Address Dean Specialty Works, San Antonio, Texas. J-490

Wanted—One 8 ft. steel brake and one 30 inch square shear. Must be in first class condition. State price and oblige. K-490, AMERICAN ARTISAN, 620 So. Michigan Ave., Chicago, Ill.

Wanted—Steel brake 10 ft. for 20 gauge. Foot power square shears 8 ft. long for 24 gauge. Punch and shear for 3/4x2 Bar iron. Address L-490, AMERICAN ARTISAN, 620 So. Michigan Ave., Chicago, Ill.

For Sale—One 6-foot steel brake in Minnesota. Cheap if taken soon. Address Y-490, AMERICAN ARTISAN, 620 S. Michigan Ave., Chicago, Ill.

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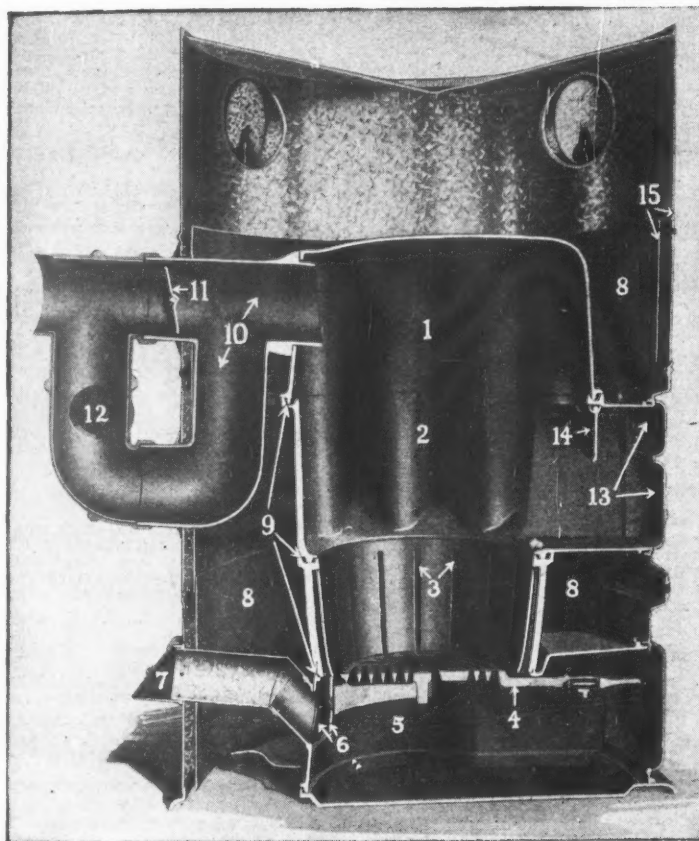
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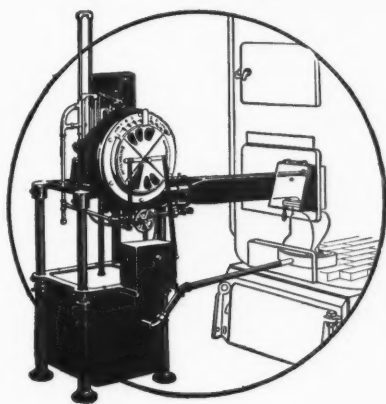
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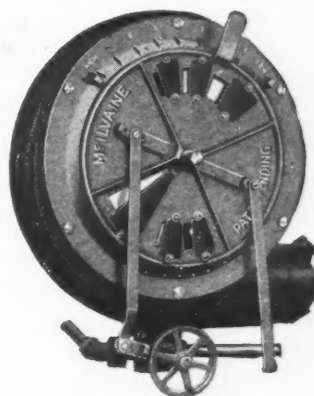
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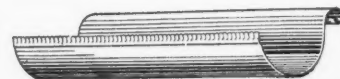
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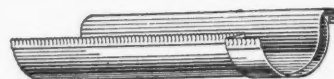
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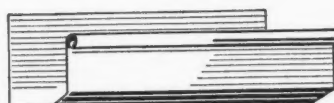
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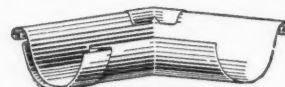
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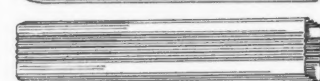
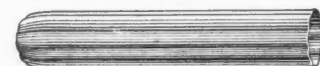
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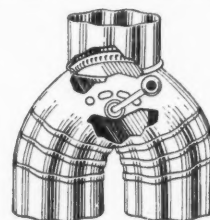
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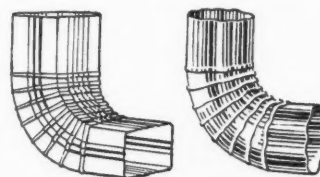
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